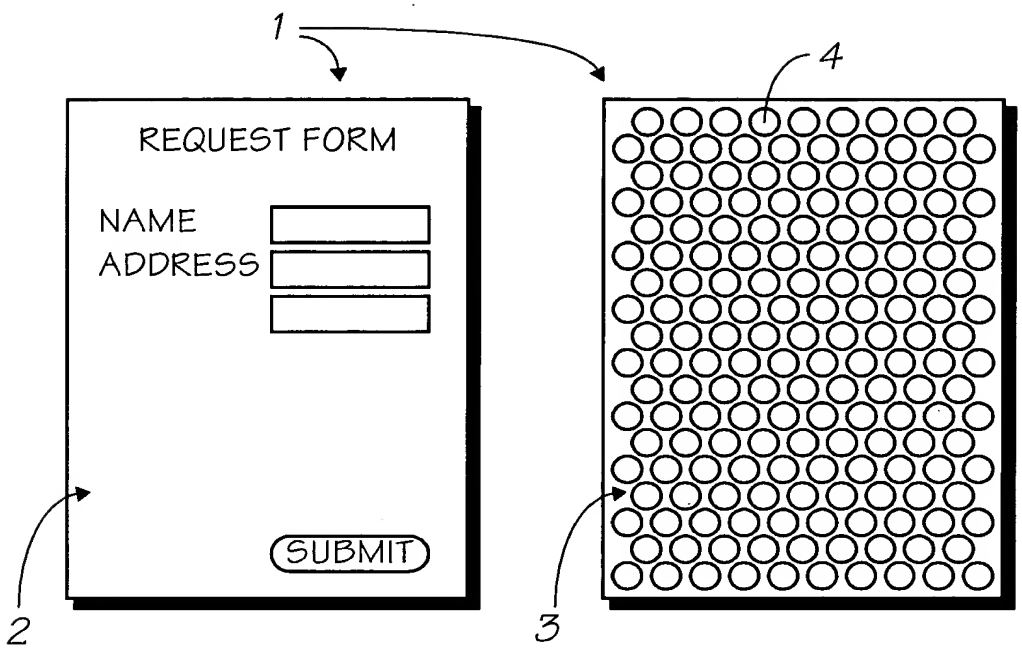
1
REQUEST FORM
NAME
ADDRESS
SUBMIT
2
3
4

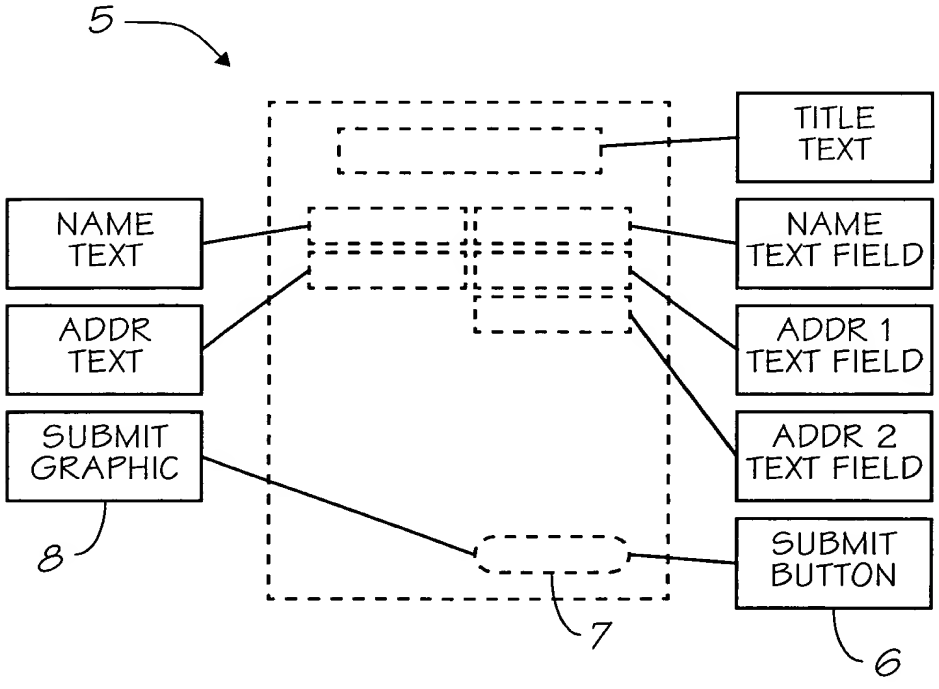
5
TITLE TEXT
NAME TEXT
NAME TEXT FIELD
ADDR TEXT
ADDR 1 TEXT FIELD
SUBMIT GRAPHIC
ADDR 2 TEXT FIELD
SUBMIT BUTTON
8
7
6

FIG. 1

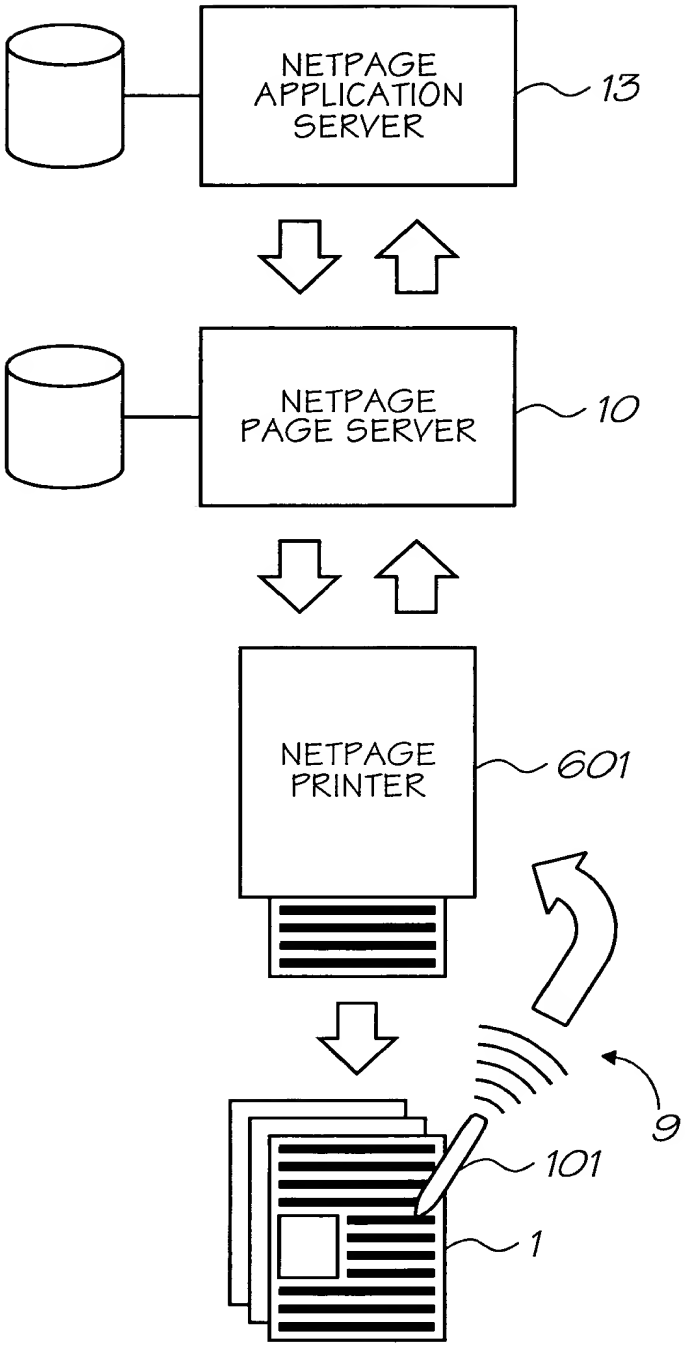

FIG. 2

09/575,197 06/06/2000

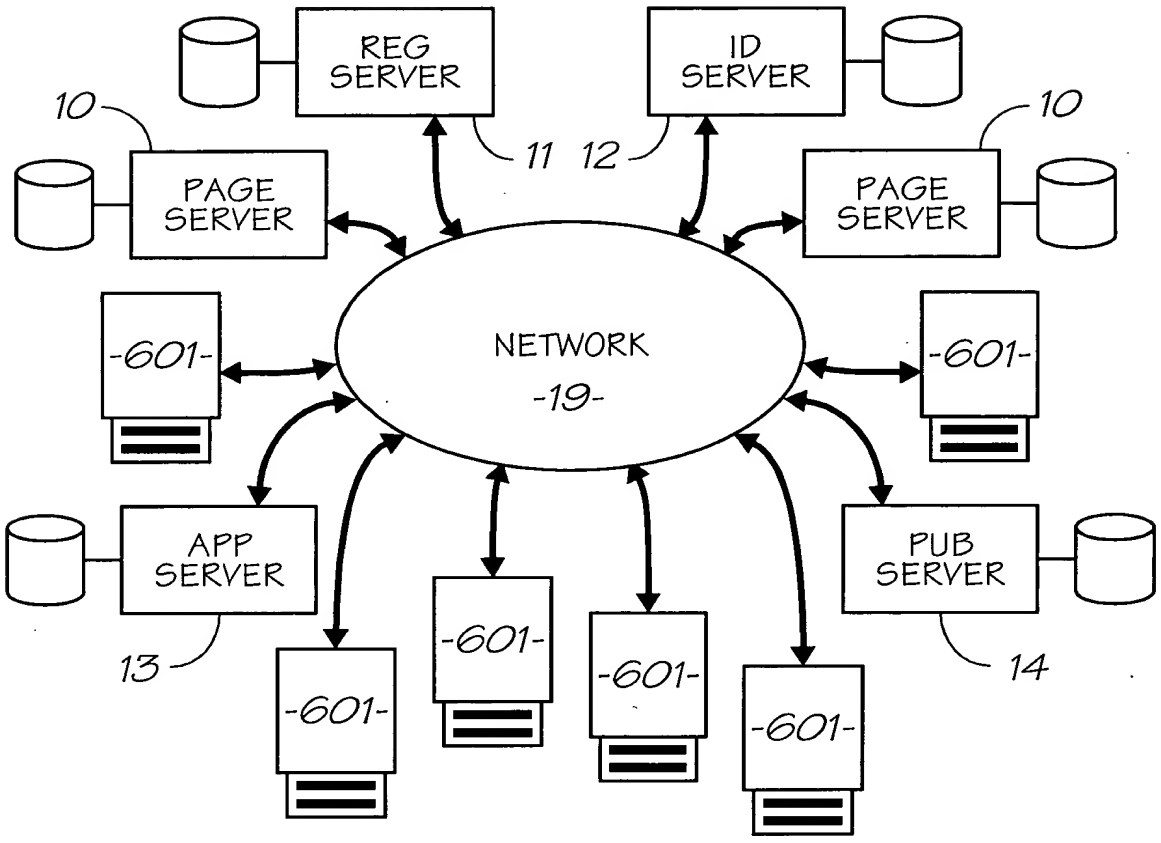
REG SERVER
ID SERVER
10
10
PAGE SERVER
PAGE SERVER
11
12
NETWORK
-19-
-601-
-601-
-601-
-601-
-601-
-601-
APP SERVER
PUB SERVER
13
14

FIG. 3

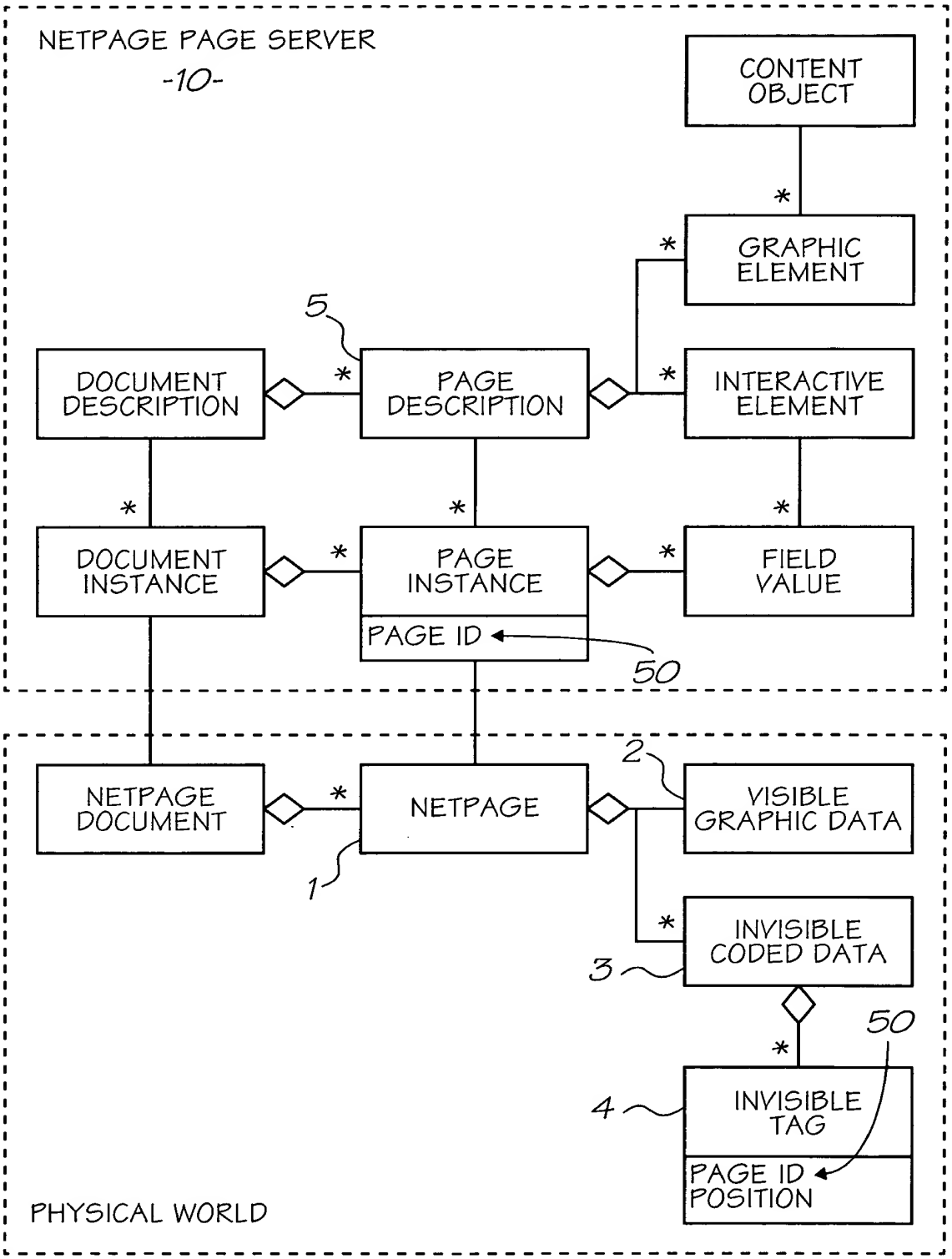
NETPAGE PAGE SERVER
-10-
CONTENT OBJECT
GRAPHIC ELEMENT
INTERACTIVE ELEMENT
PAGE DESCRIPTION
DOCUMENT DESCRIPTION
DOCUMENT INSTANCE
PAGE INSTANCE
FIELD VALUE
PAGE ID
50
5
NETPAGE DOCUMENT
NETPAGE
1
2
VISIBLE GRAPHIC DATA
INVISIBLE CODED DATA
3
INVISIBLE TAG
4
PAGE ID POSITION
PHYSICAL WORLD

FIG. 4

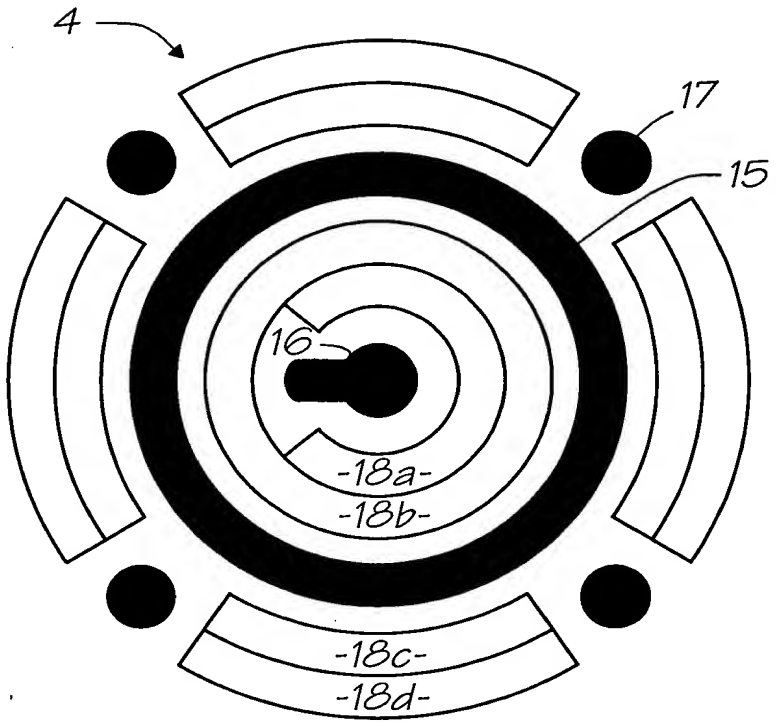

FIG. 5

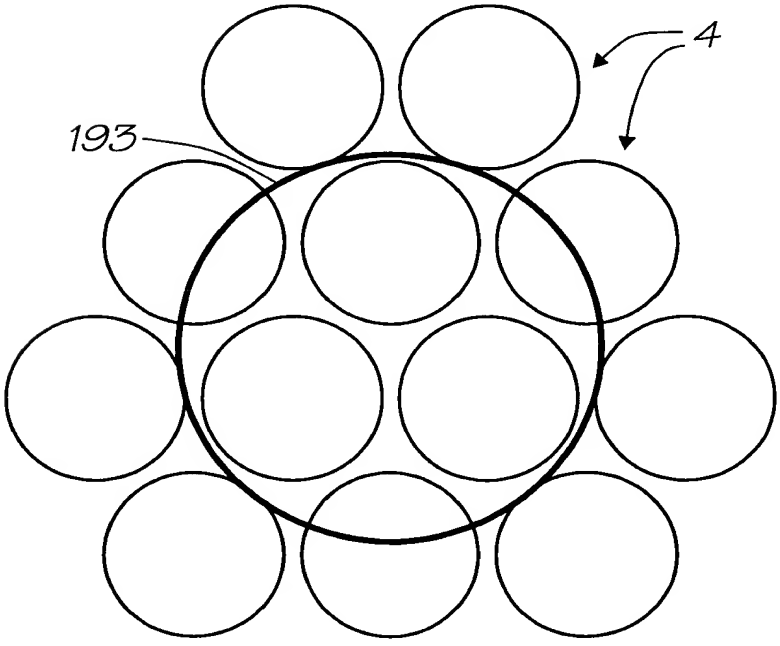

FIG. 6

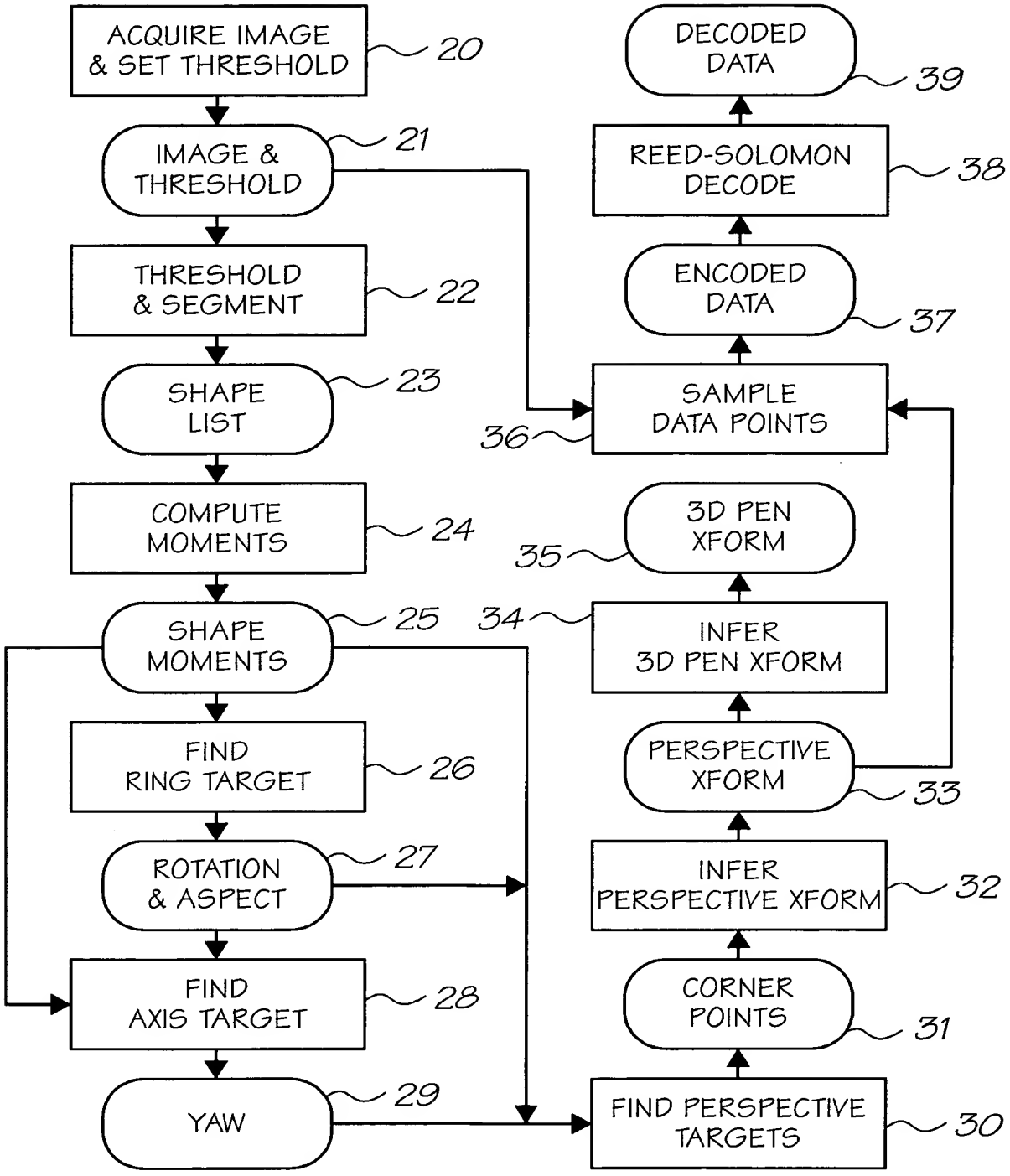
ACQUIRE IMAGE & SET THRESHOLD
20
IMAGE & THRESHOLD
21
THRESHOLD & SEGMENT
22
SHAPE LIST
23
COMPUTE MOMENTS
24
SHAPE MOMENTS
25
FIND RING TARGET
26
ROTATION & ASPECT
27
FIND AXIS TARGET
28
YAW
29
FIND PERSPECTIVE TARGETS
30
CORNER POINTS
31
INFER PERSPECTIVE XFORM
32
PERSPECTIVE XFORM
33
INFER 3D PEN XFORM
34
3D PEN XFORM
35
SAMPLE DATA POINTS
36
ENCODED DATA
37
REED-SOLOMON DECODE
38
DECODED DATA
39

FIG. 7

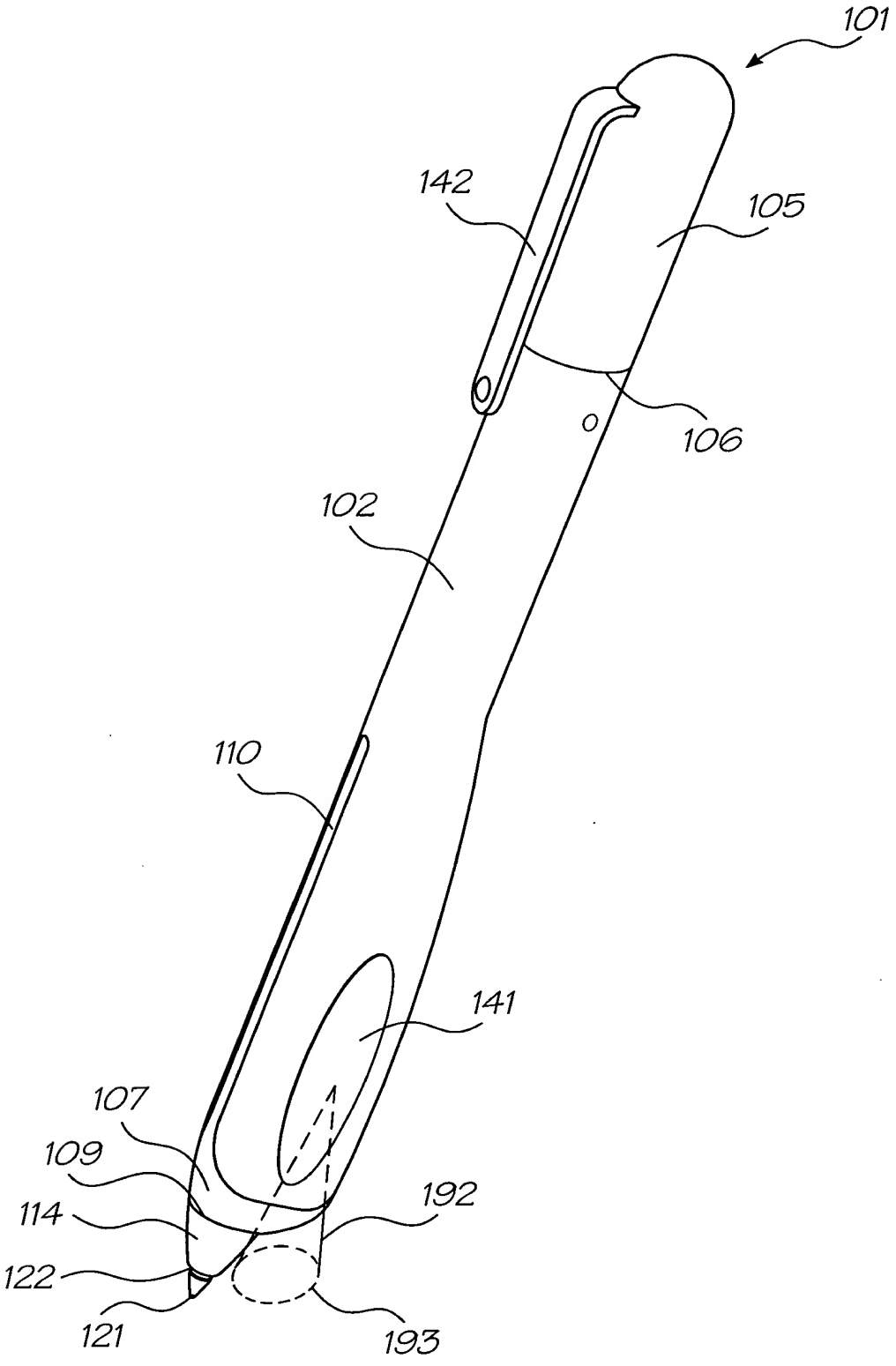

FIG. 8

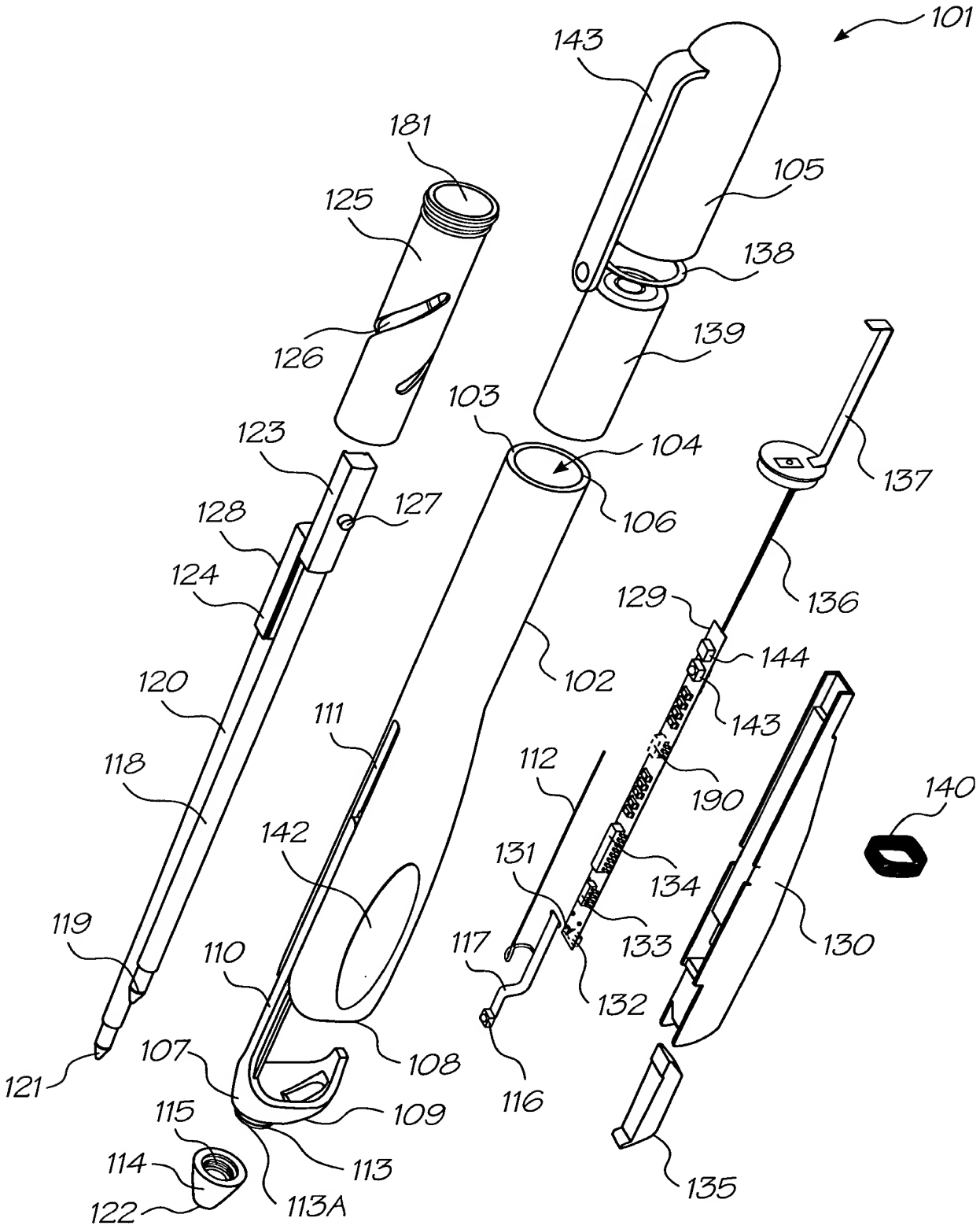
101
143
181
105
125
138
126
139
103
104
123
137
128
127
106
124
129
136
102
144
120
111
143
112
118
190
140
142
131
134
119
133
130
110
117
132
107
108
116
121
109
115
135
113
114
113A
122

FIG. 9

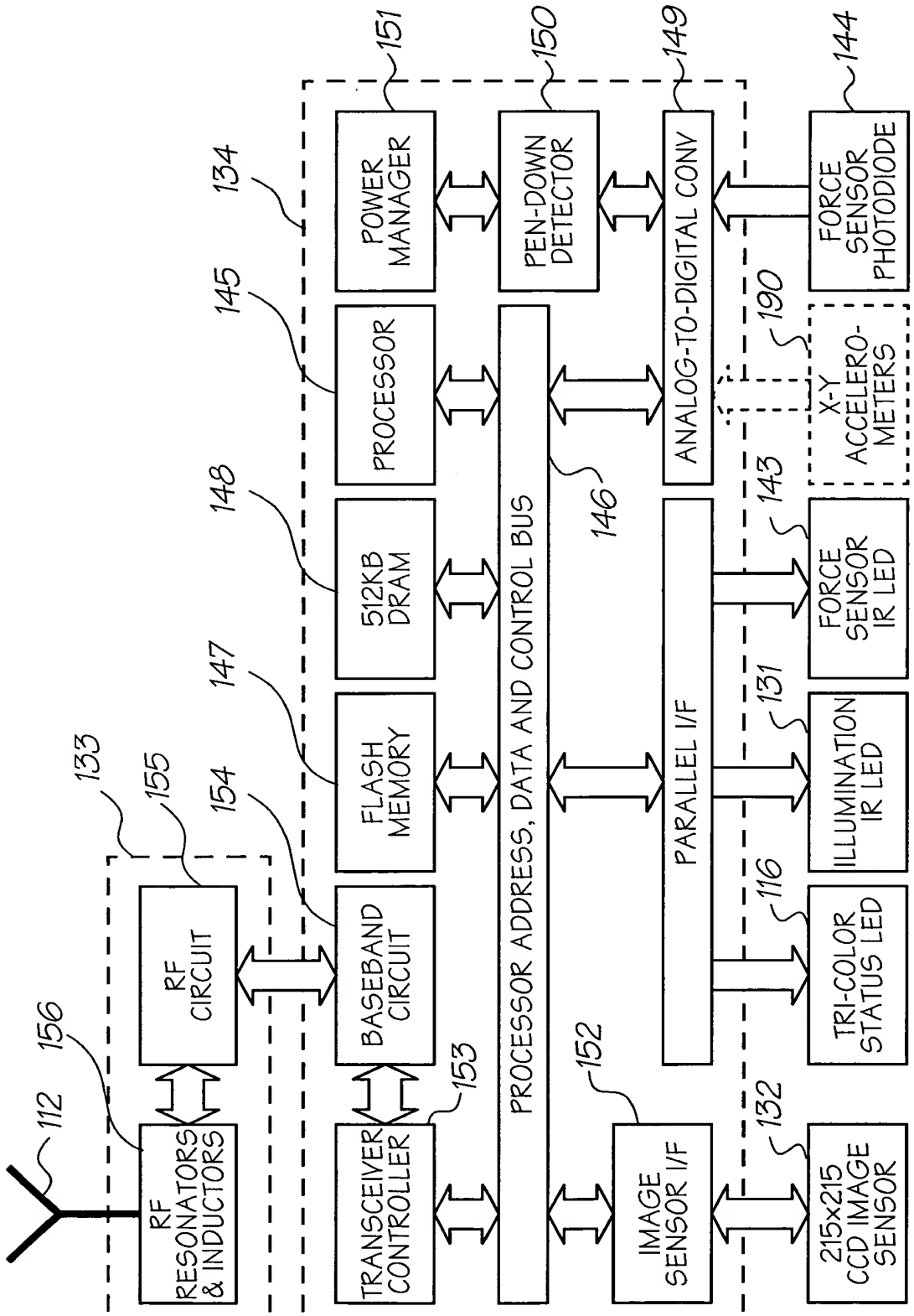
112
156
RF RESONATORS & INDUCTORS
133
155
RF CIRCUIT
154
BASEBAND CIRCUIT
147
FLASH MEMORY
148
512KB DRAM
145
PROCESSOR
134
POWER MANAGER
151
150
PEN-DOWN DETECTOR
149
ANALOG-TO-DIGITAL CONV
144
FORCE SENSOR PHOTODIODE
190
X-Y ACCELERO-METERS
143
FORCE SENSOR IR LED
131
ILLUMINATION IR LED
116
TRI-COLOR STATUS LED
153
TRANSCEIVER CONTROLLER
146
PROCESSOR ADDRESS, DATA AND CONTROL BUS
PARALLEL I/F
152
IMAGE SENSOR I/F
132
215x215 CCD IMAGE SENSOR

FIG. 10

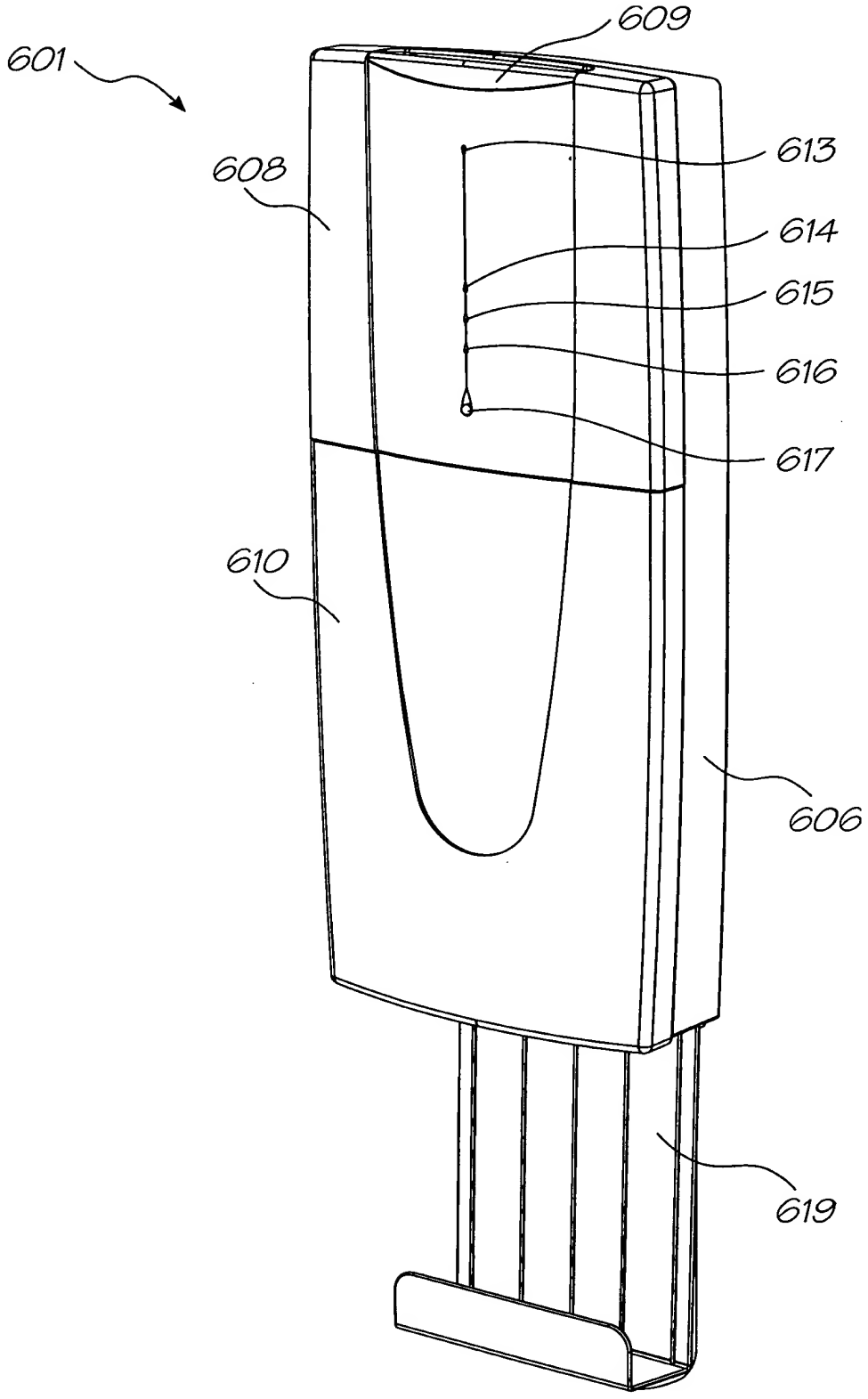

FIG. 11

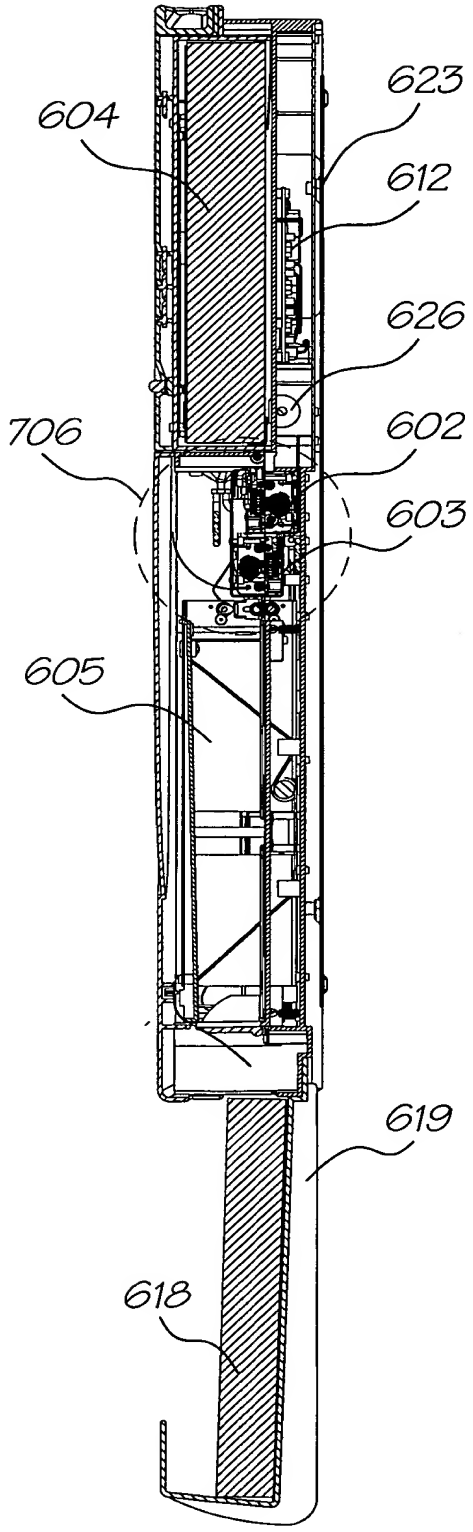

FIG. 12

09/575,197 05/19/2000 6,550,921

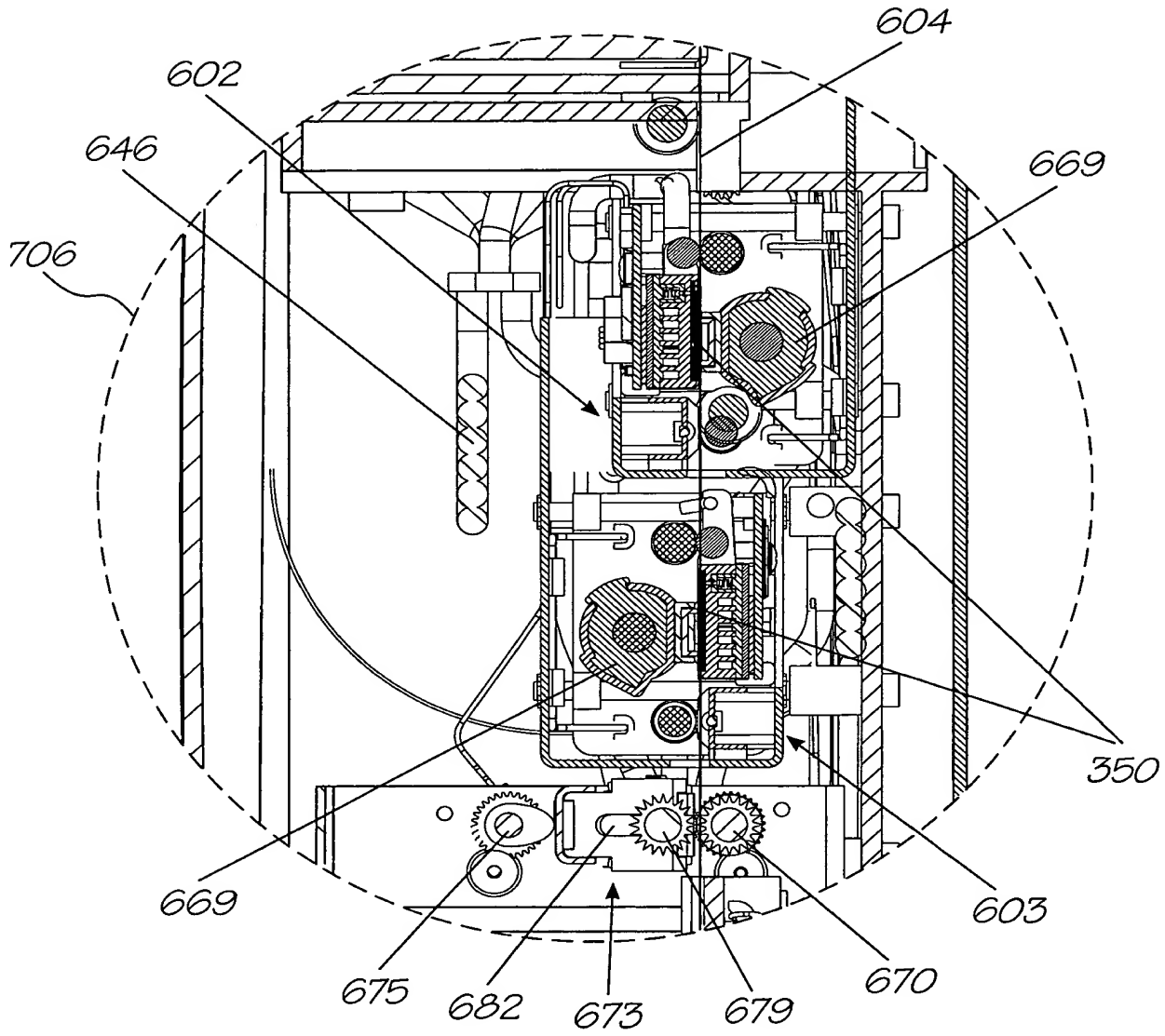

FIG. 12a

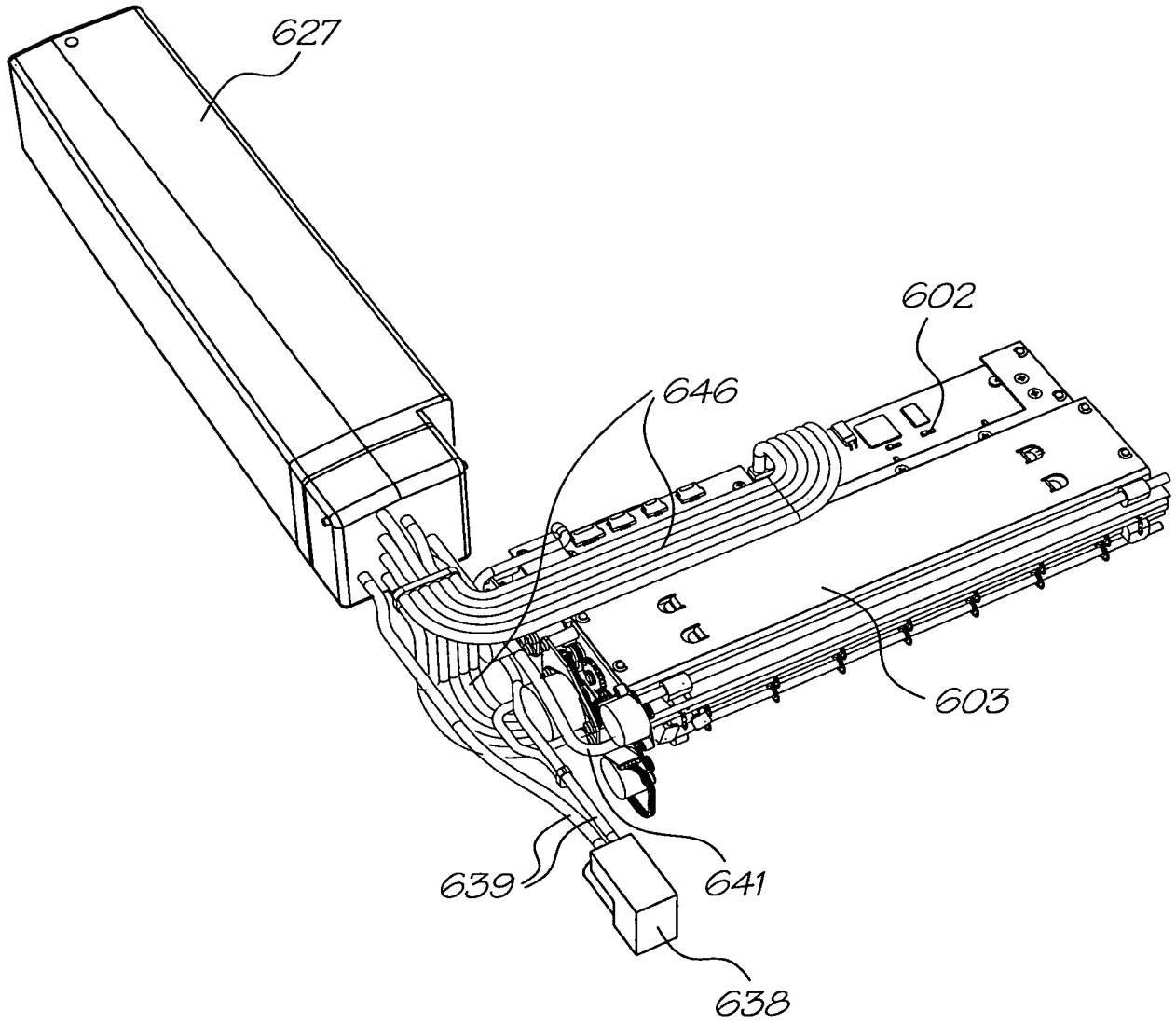

FIG. 13

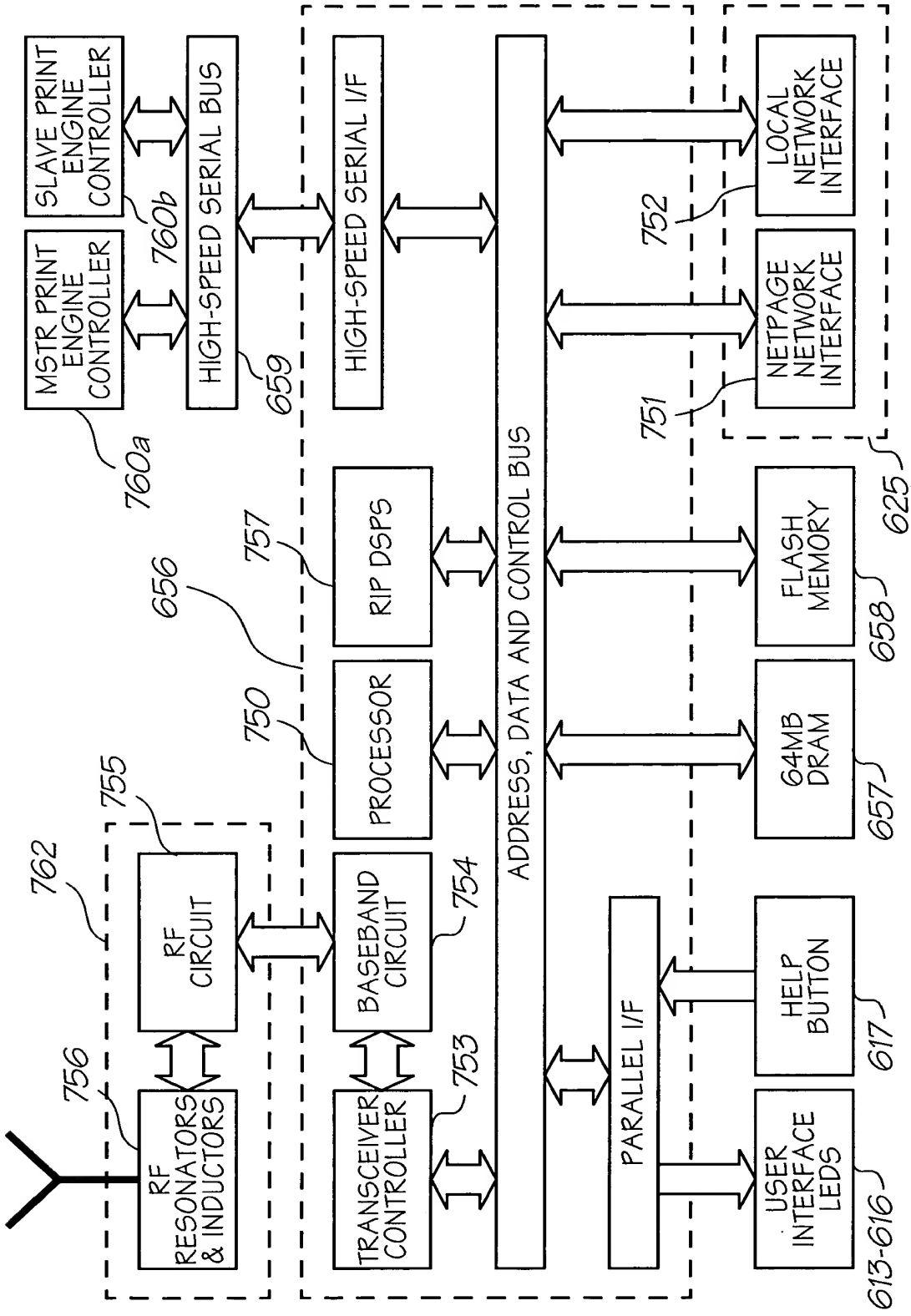
SLAVE PRINT ENGINE CONTROLLER
MSTR PRINT ENGINE CONTROLLER
HIGH-SPEED SERIAL BUS
HIGH-SPEED SERIAL I/F
LOCAL NETWORK INTERFACE
NETPAGE NETWORK INTERFACE
RIP DSPS
PROCESSOR
FLASH MEMORY
64MB DRAM
ADDRESS, DATA AND CONTROL BUS
RF CIRCUIT
BASEBAND CIRCUIT
RF RESONATORS & INDUCTORS
TRANSCEIVER CONTROLLER
PARALLEL I/F
HELP BUTTON
USER INTERFACE LEDS
760a
760b
659
751
752
757
656
750
625
658
657
755
762
754
756
753
617
613-616

FIG. 14

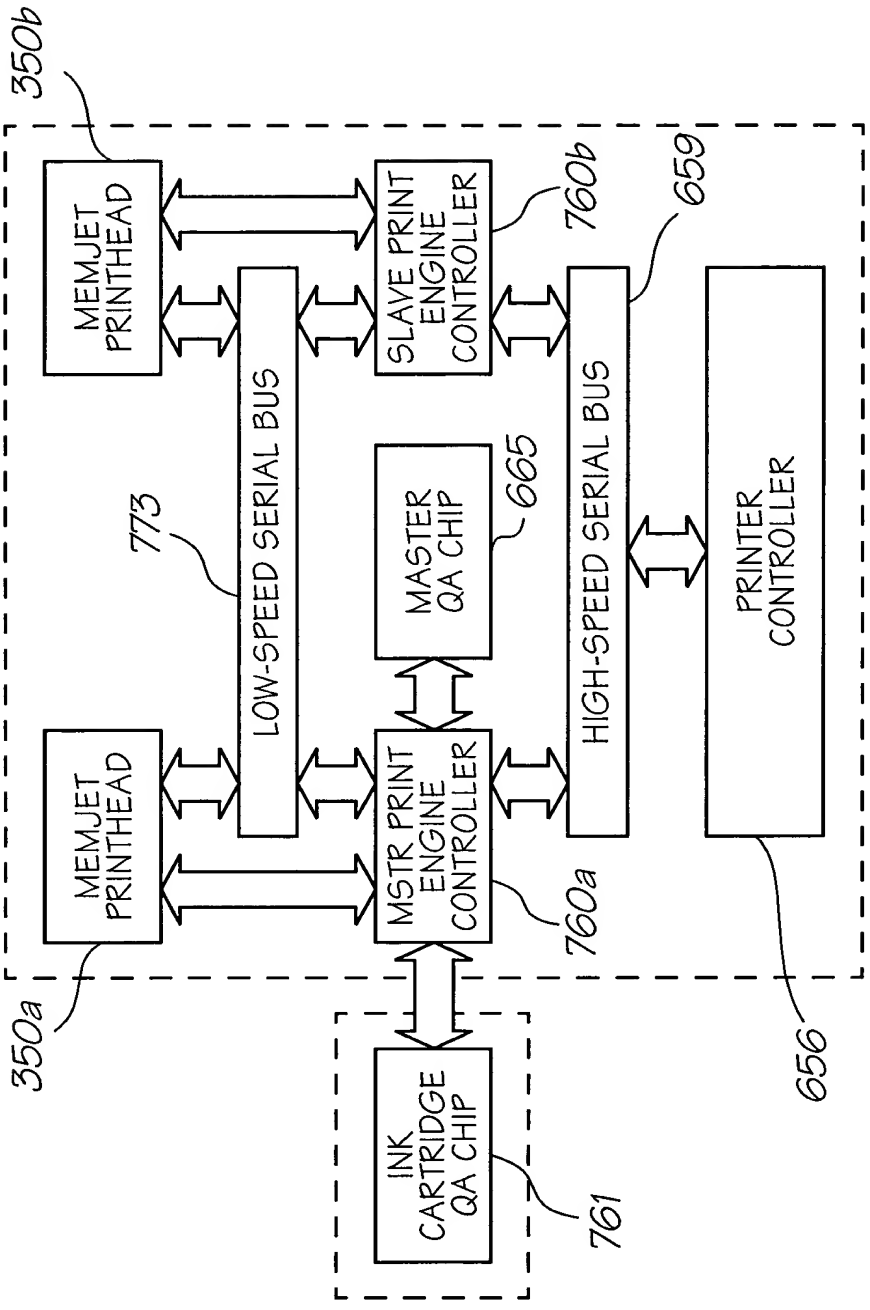
350b
MEMJET PRINTHEAD
SLAVE PRINT ENGINE CONTROLLER
760b
659
773
LOW-SPEED SERIAL BUS
MASTER QA CHIP
665
HIGH-SPEED SERIAL BUS
PRINTER CONTROLLER
MEMJET PRINTHEAD
MSTR PRINT ENGINE CONTROLLER
760a
350a
656
INK CARTRIDGE QA CHIP
761

FIG. 15

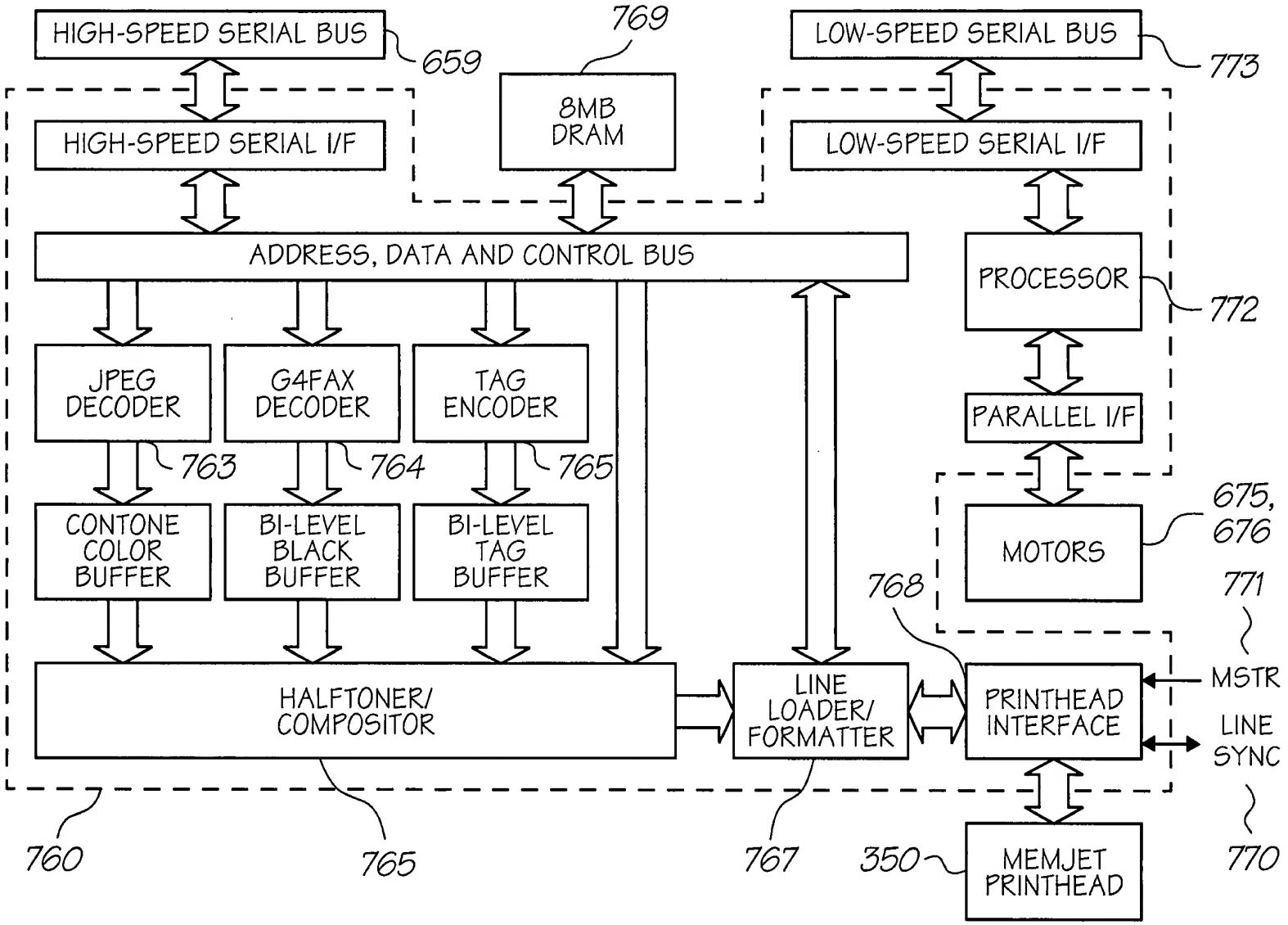
HIGH-SPEED SERIAL BUS
659
769
LOW-SPEED SERIAL BUS
773
8MB DRAM
HIGH-SPEED SERIAL I/F
LOW-SPEED SERIAL I/F
ADDRESS, DATA AND CONTROL BUS
PROCESSOR
772
JPEG DECODER
G4FAX DECODER
TAG ENCODER
PARALLEL I/F
763
764
765
CONTONE COLOR BUFFER
BI-LEVEL BLACK BUFFER
BI-LEVEL TAG BUFFER
675, 676
MOTORS
768
771
HALFTONER/ COMPOSITOR
LINE LOADER/ FORMATTER
PRINTHEAD INTERFACE
MSTR
LINE SYNC
760
765
767
350
MEMJET PRINTHEAD
770

FIG. 16

PCT/US2003/029060

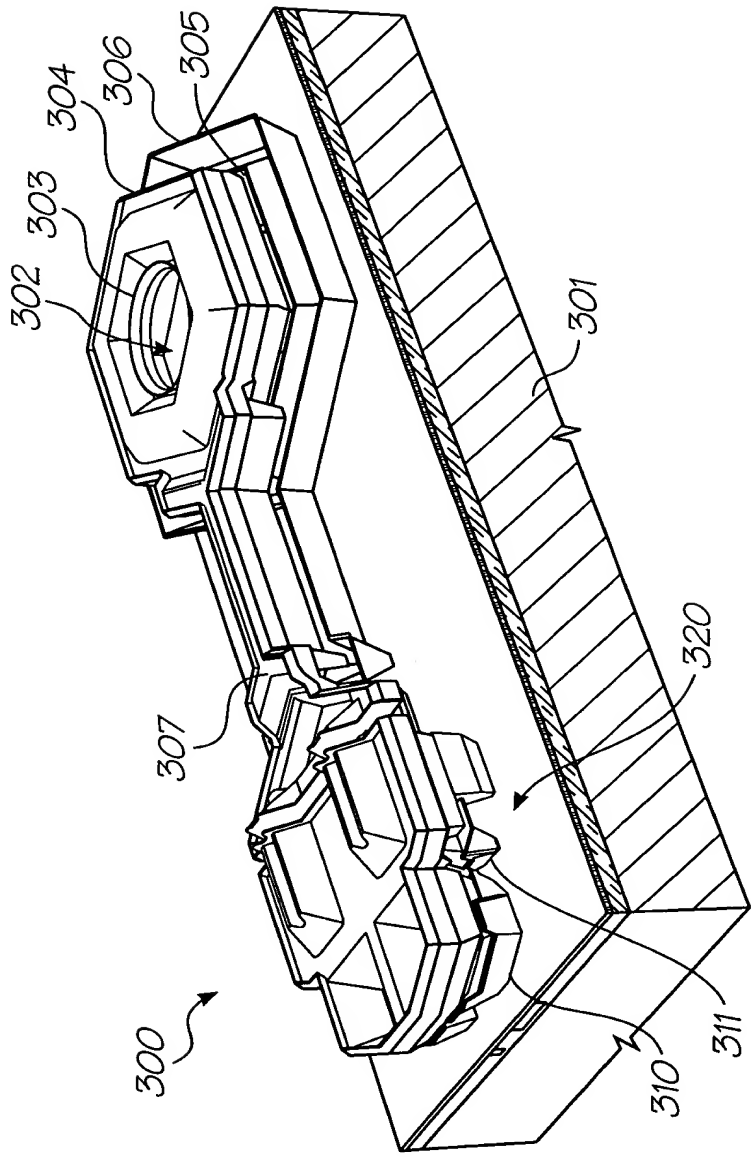

FIG. 17

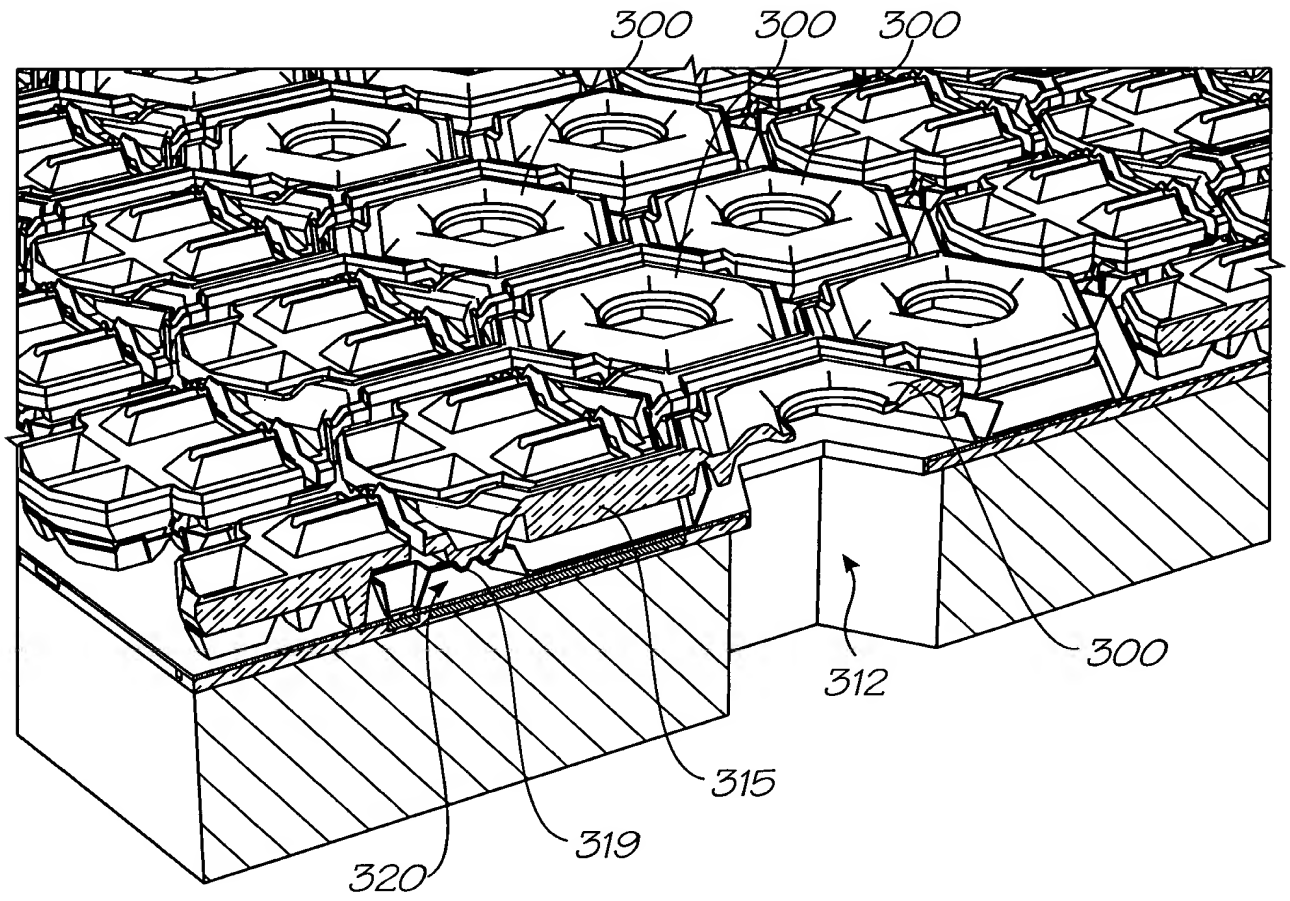

FIG. 18

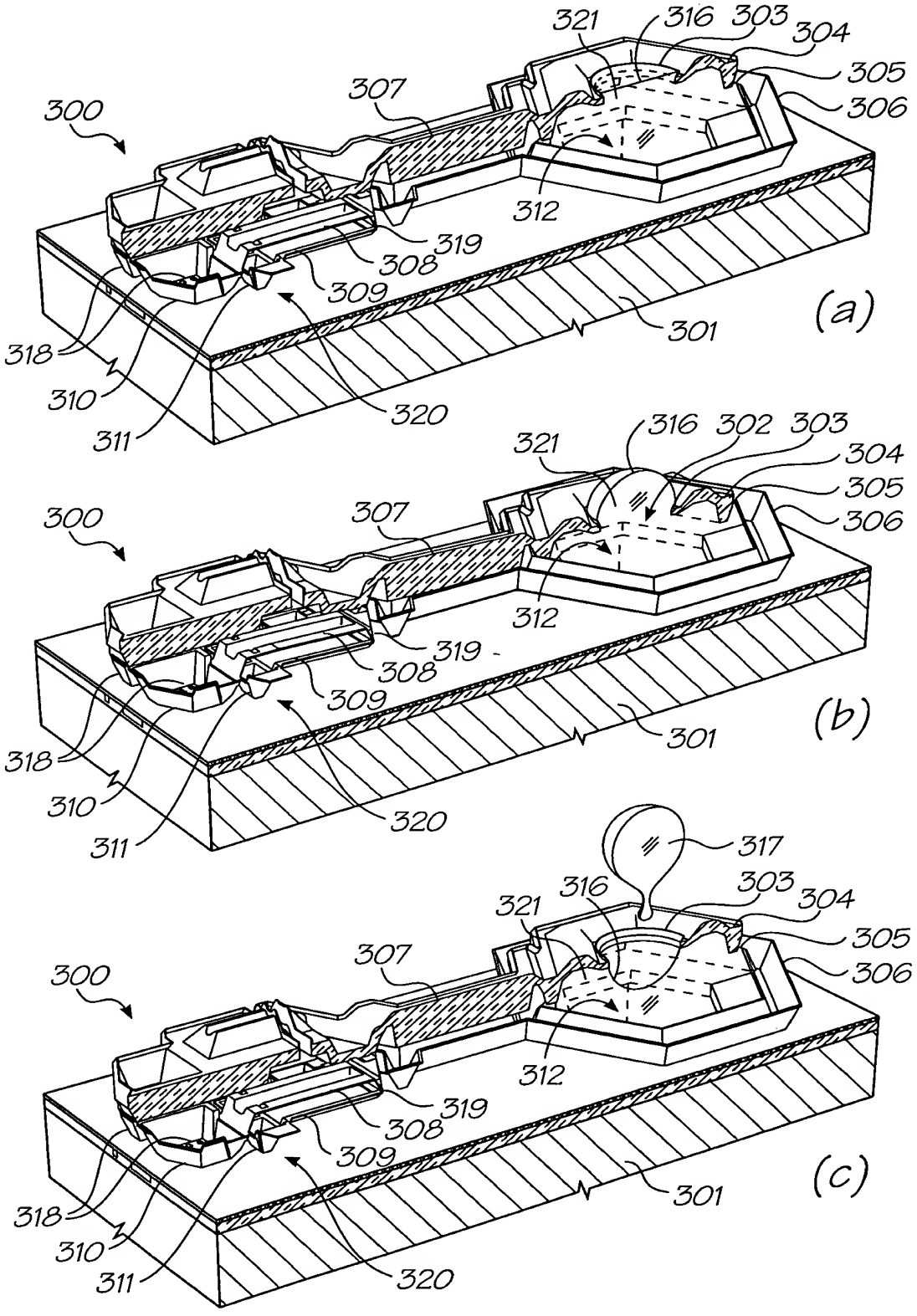
321
316
303
304
305
306
307
300
312
319
308
309
318
310
311
320
301
(a)
316
302
303
304
305
306
321
307
300
312
319
308
309
318
310
311
320
301
(b)
317
316
303
304
321
305
306
307
300
312
319
308
309
318
310
311
320
301
(c)

FIG. 19

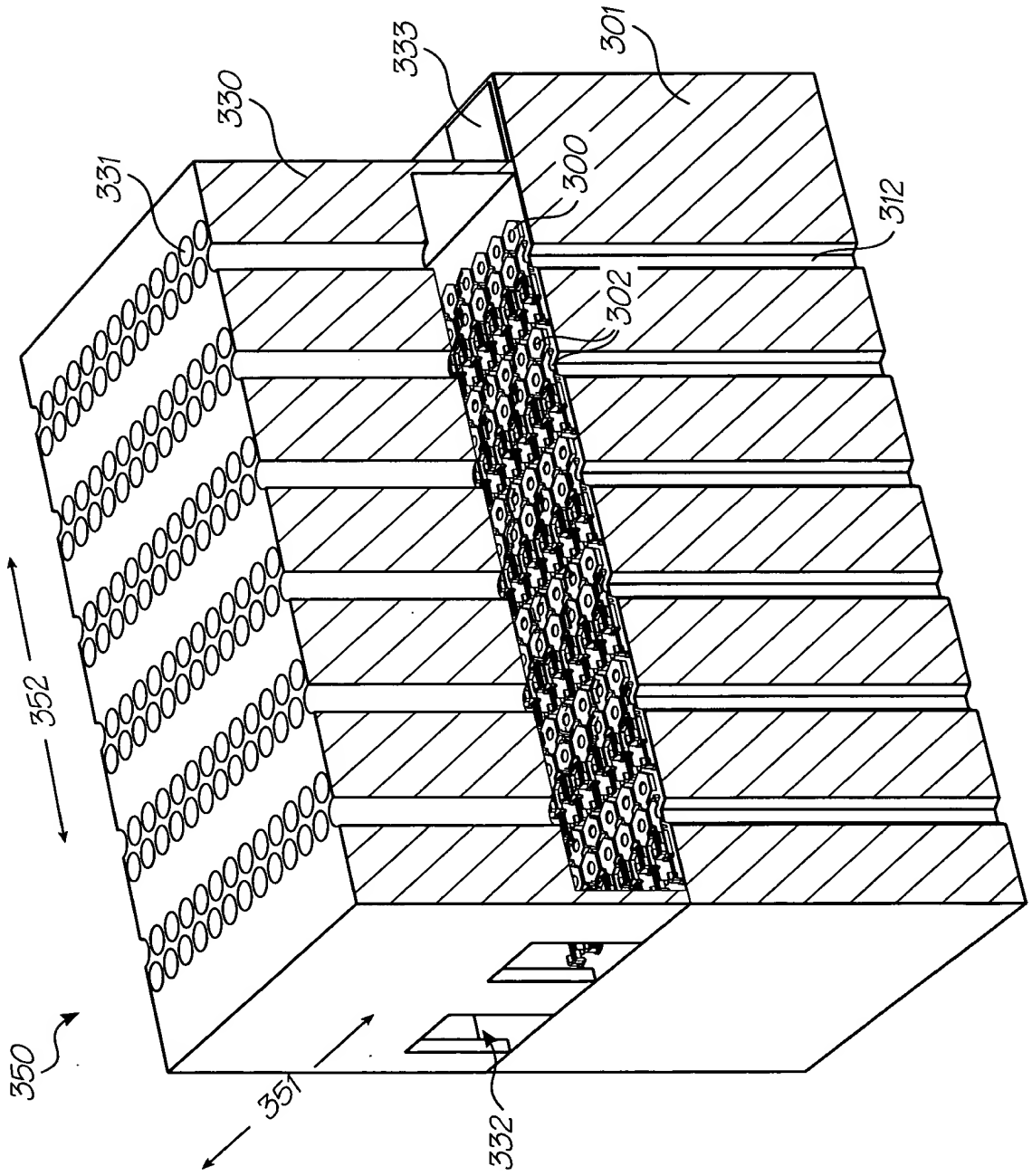

FIG. 20

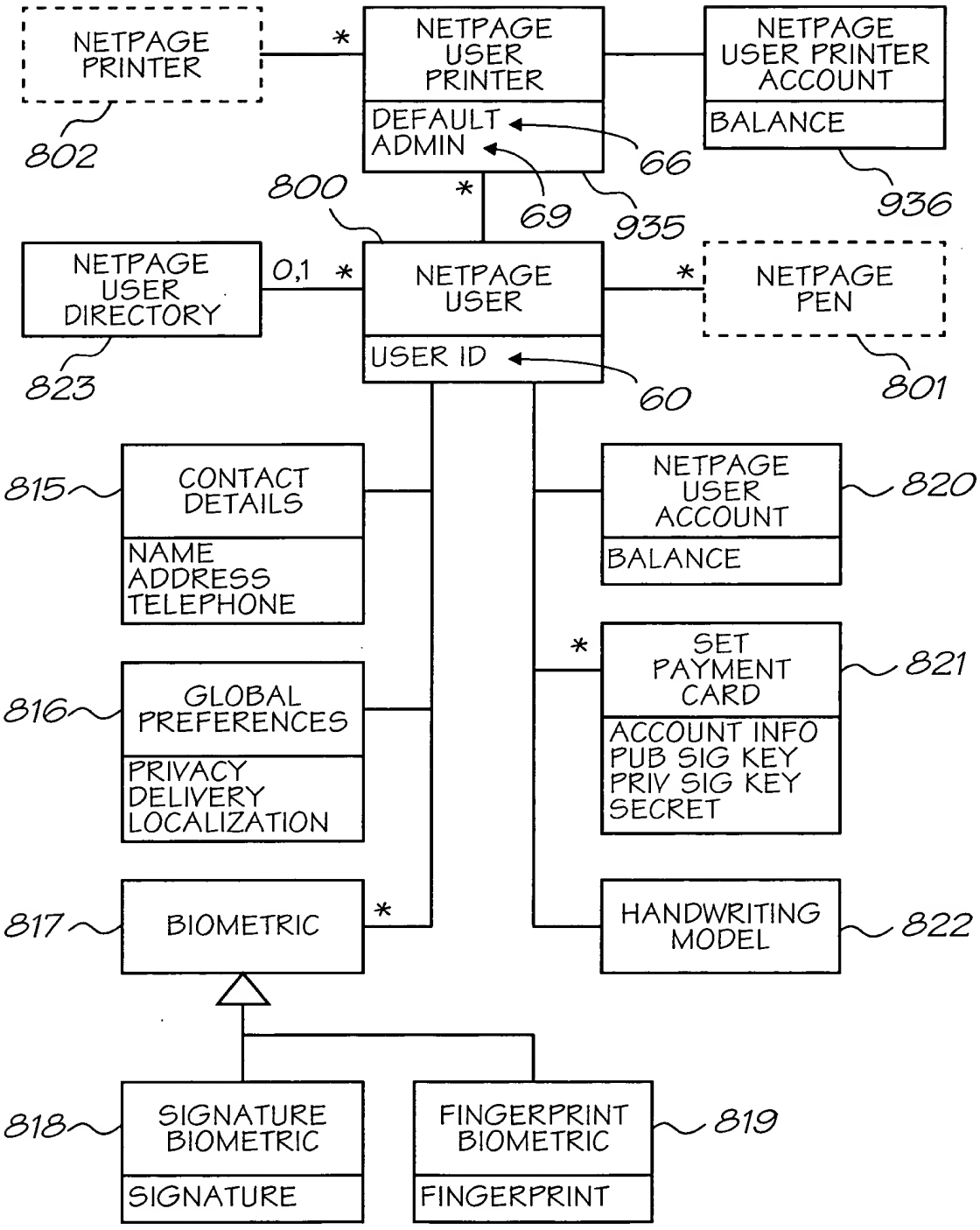
NETPAGE PRINTER
802
*
NETPAGE USER PRINTER
DEFAULT
ADMIN
66
69
NETPAGE USER PRINTER ACCOUNT
BALANCE
936
935
800
*
NETPAGE USER DIRECTORY
823
0,1 *
NETPAGE USER
USER ID
60
*
NETPAGE PEN
801
815
CONTACT DETAILS
NAME
ADDRESS
TELEPHONE
NETPAGE USER ACCOUNT
BALANCE
820
816
GLOBAL PREFERENCES
PRIVACY
DELIVERY
LOCALIZATION
*
SET PAYMENT CARD
ACCOUNT INFO
PUB SIG KEY
PRIV SIG KEY
SECRET
821
817
BIOMETRIC
*
HANDWRITING MODEL
822
818
SIGNATURE BIOMETRIC
SIGNATURE
FINGERPRINT BIOMETRIC
FINGERPRINT
819

FIG. 21

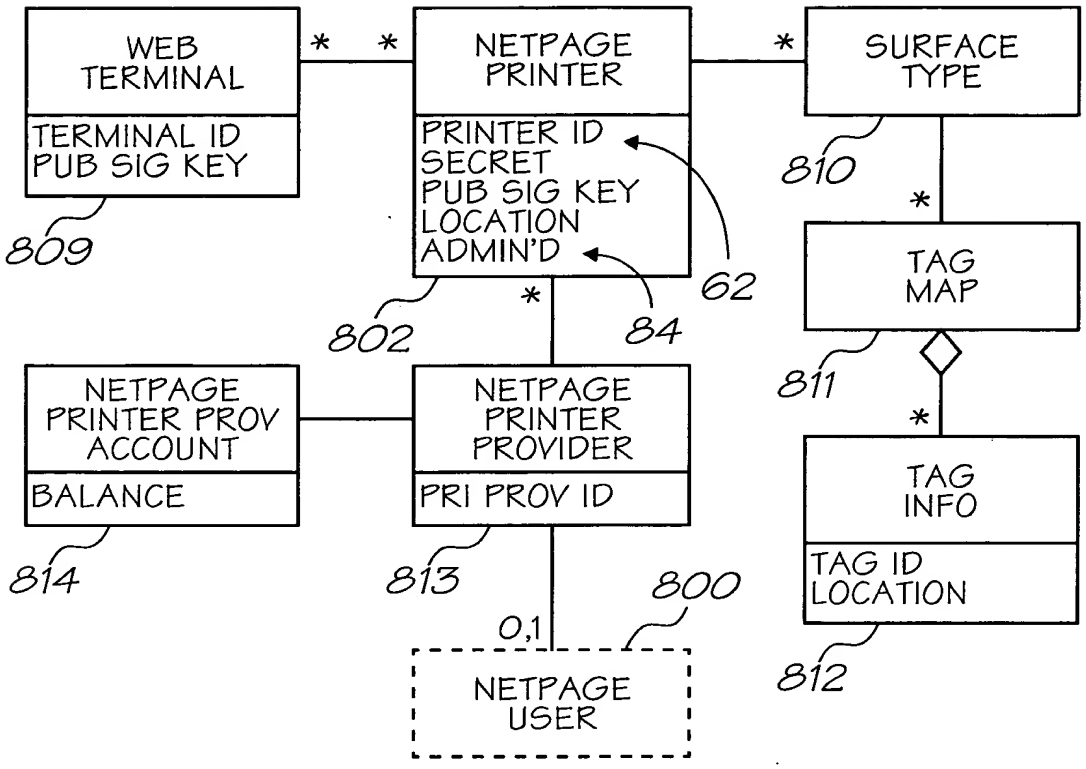
WEB TERMINAL
TERMINAL ID
PUB SIG KEY
809
NETPAGE PRINTER
PRINTER ID
SECRET
PUB SIG KEY
LOCATION
ADMIN'D
802
84
62
SURFACE TYPE
810
TAG MAP
811
TAG INFO
TAG ID
LOCATION
812
NETPAGE PRINTER PROV ACCOUNT
BALANCE
814
NETPAGE PRINTER PROVIDER
PRI PROV ID
813
800
0,1
NETPAGE USER
*

FIG. 22

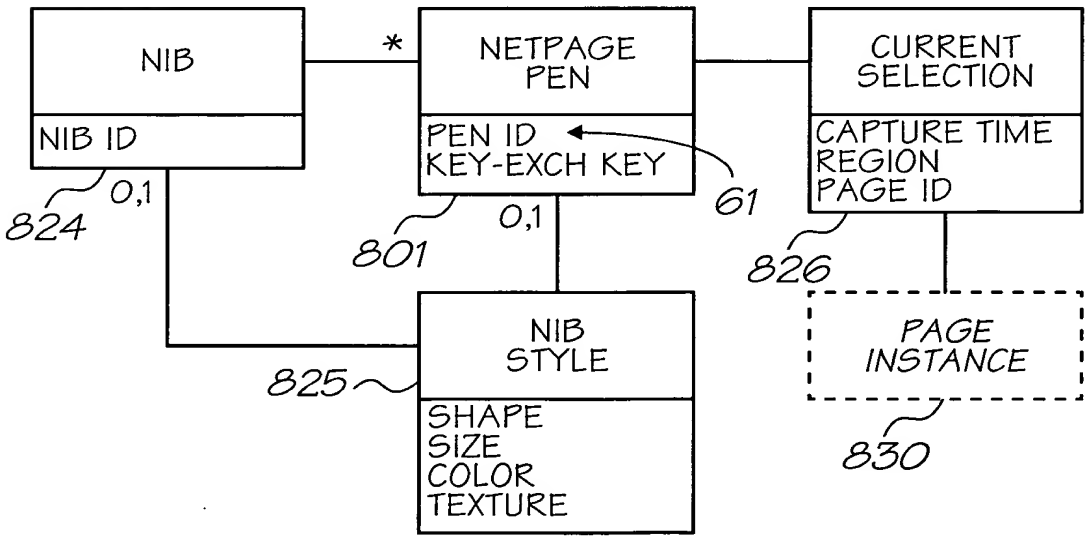
NIB
NIB ID
824
0,1
NETPAGE PEN
PEN ID
KEY-EXCH KEY
801
61
0,1
CURRENT SELECTION
CAPTURE TIME
REGION
PAGE ID
826
NIB STYLE
825
SHAPE
SIZE
COLOR
TEXTURE
PAGE INSTANCE
830
*

FIG. 23

09895060 020599

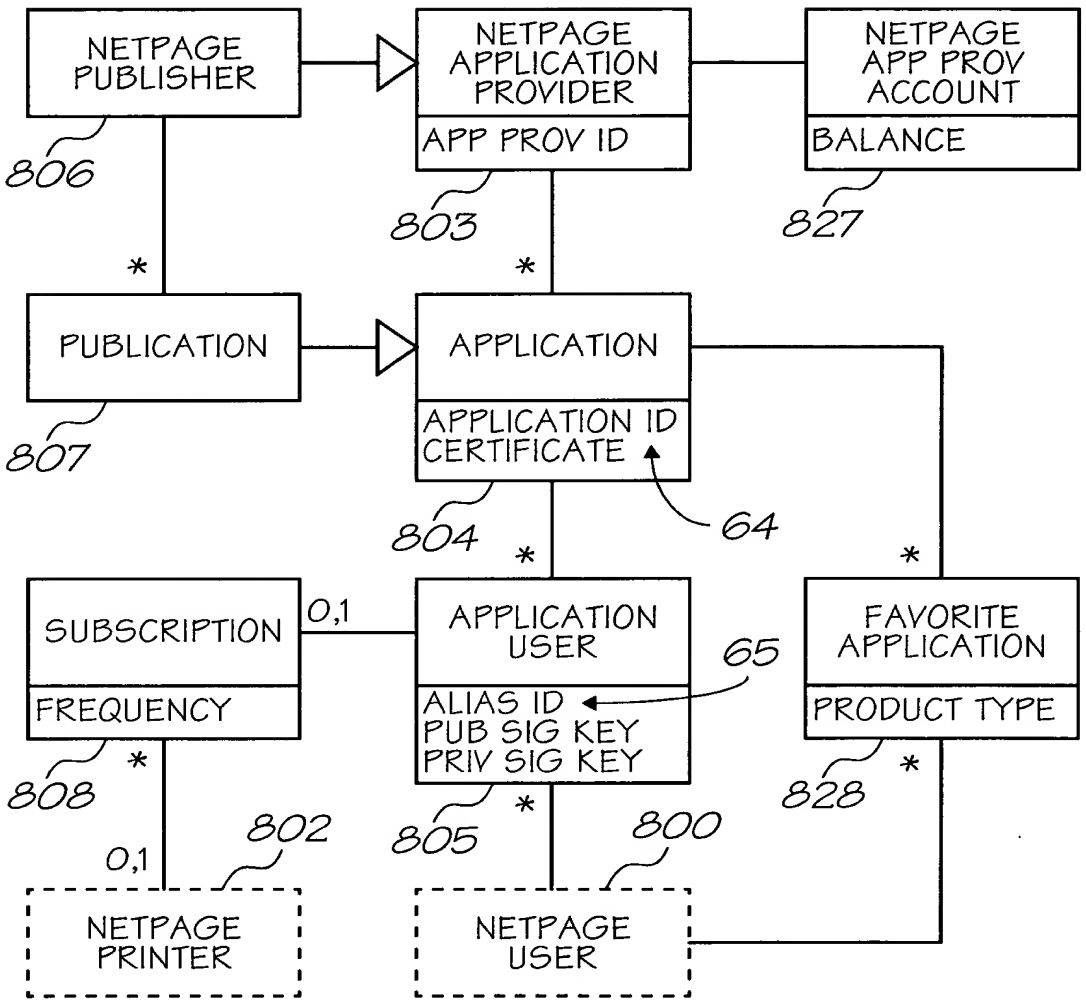

FIG. 24

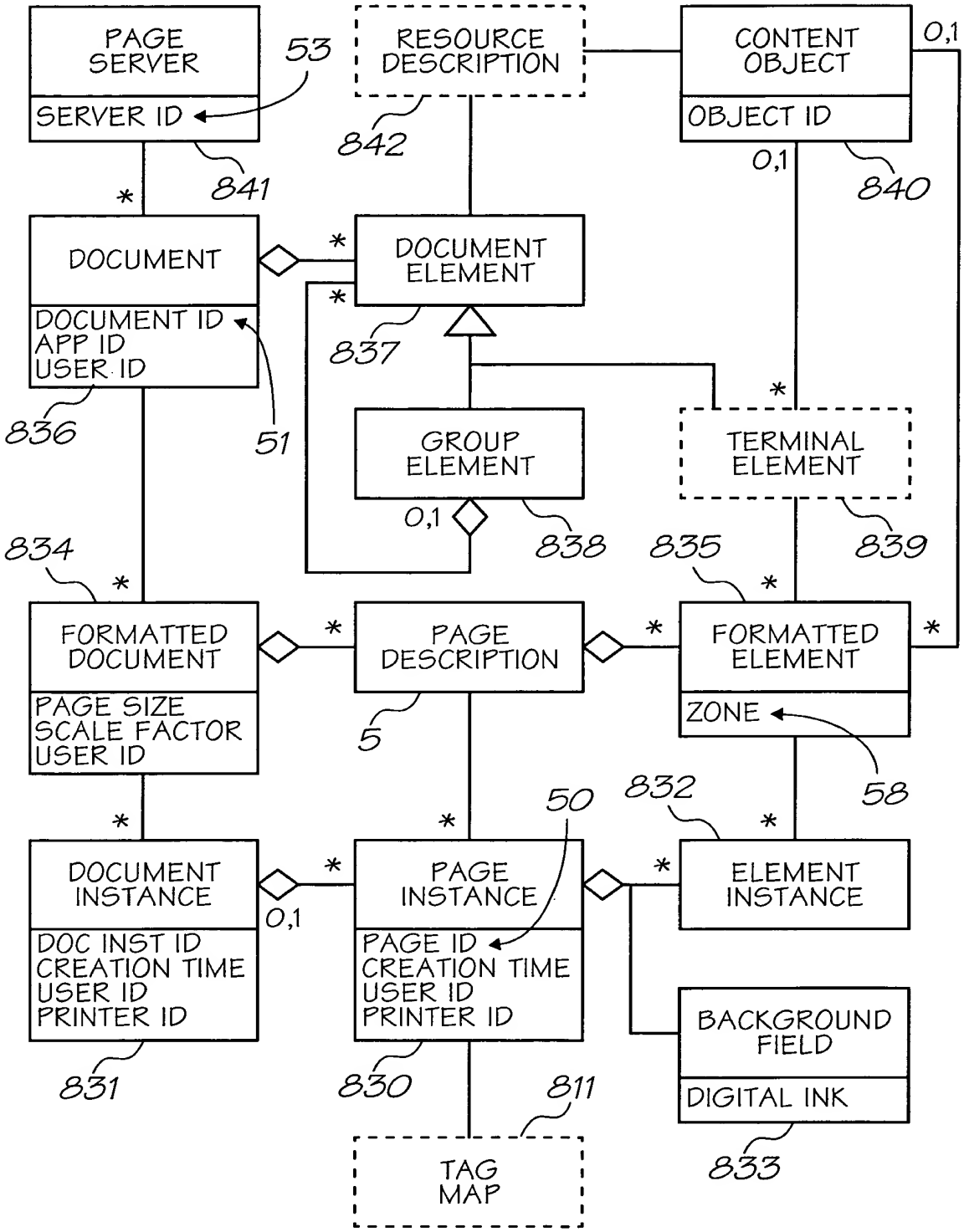
PAGE SERVER
SERVER ID
53
RESOURCE DESCRIPTION
842
CONTENT OBJECT
OBJECT ID
0,1
0,1
840
841
*
DOCUMENT
DOCUMENT ID
APP ID
USER ID
836
51
*
DOCUMENT ELEMENT
*
837
GROUP ELEMENT
0,1
838
*
TERMINAL ELEMENT
839
834
*
835
*
FORMATTED DOCUMENT
PAGE SIZE
SCALE FACTOR
USER ID
*
PAGE DESCRIPTION
5
*
FORMATTED ELEMENT
ZONE
*
58
832
50
*
*
*
DOCUMENT INSTANCE
DOC INST ID
CREATION TIME
USER ID
PRINTER ID
831
*
0,1
PAGE INSTANCE
PAGE ID
CREATION TIME
USER ID
PRINTER ID
830
*
ELEMENT INSTANCE
BACKGROUND FIELD
DIGITAL INK
833
811
TAG MAP

FIG. 25

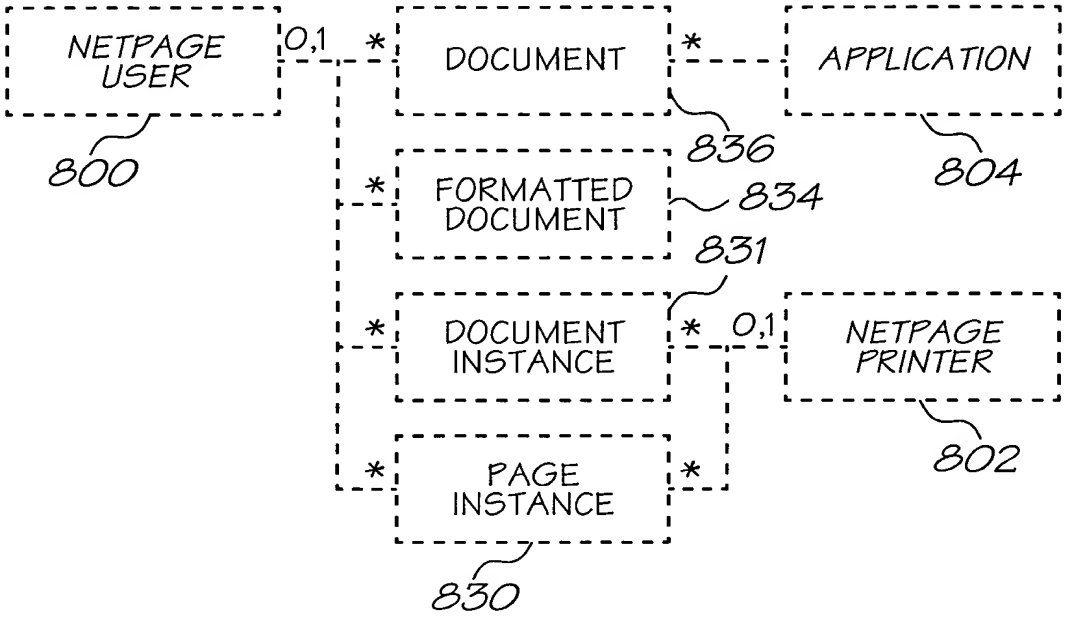

FIG. 26

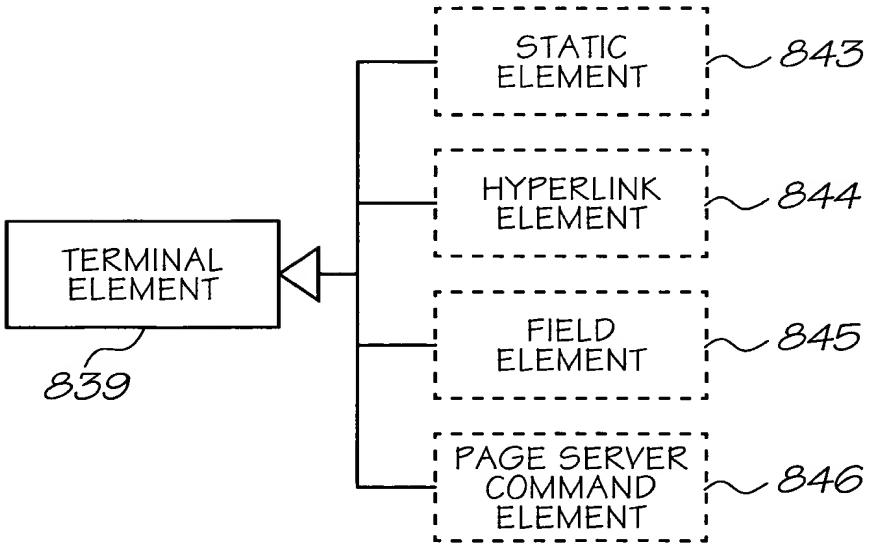

FIG. 27

09693036.030500

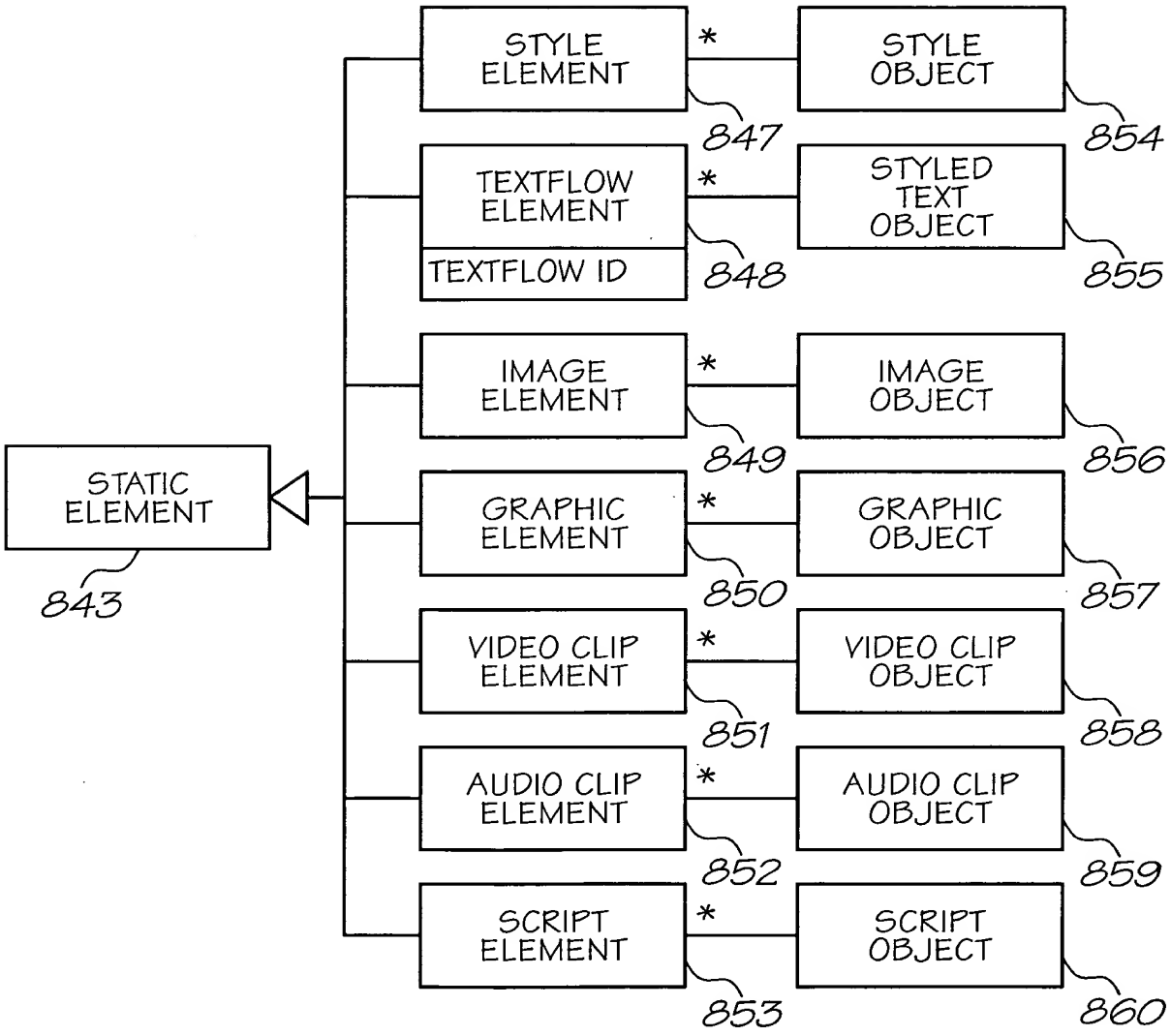
STATIC ELEMENT
843
STYLE ELEMENT
847
STYLE OBJECT
854
TEXTFLOW ELEMENT
TEXTFLOW ID
848
STYLED TEXT OBJECT
855
IMAGE ELEMENT
849
IMAGE OBJECT
856
GRAPHIC ELEMENT
850
GRAPHIC OBJECT
857
VIDEO CLIP ELEMENT
851
VIDEO CLIP OBJECT
858
AUDIO CLIP ELEMENT
852
AUDIO CLIP OBJECT
859
SCRIPT ELEMENT
853
SCRIPT OBJECT
860
*

FIG. 28

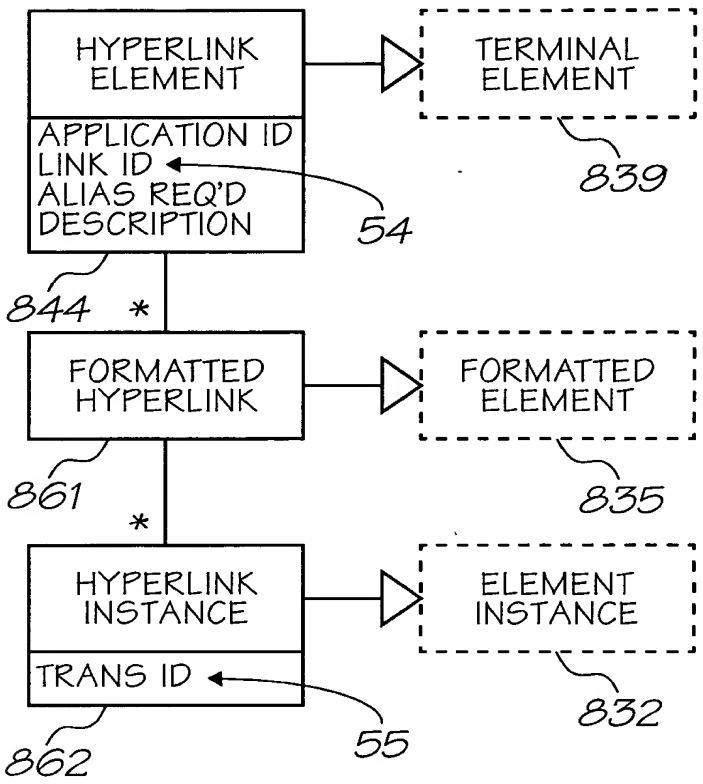

FIG. 29

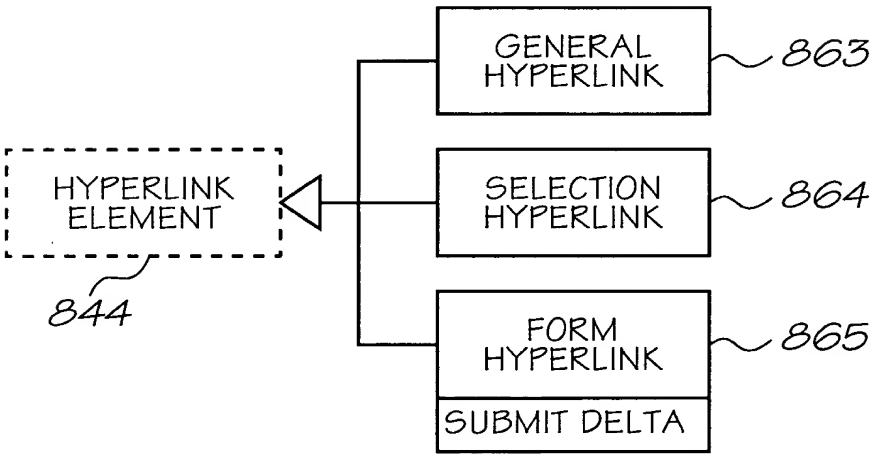

FIG. 30

09/503,313 02/14/2000

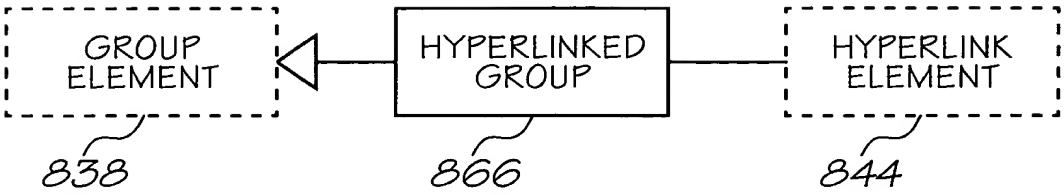
GROUP ELEMENT
HYPERLINKED GROUP
HYPERLINK ELEMENT
838
866
844

FIG. 31

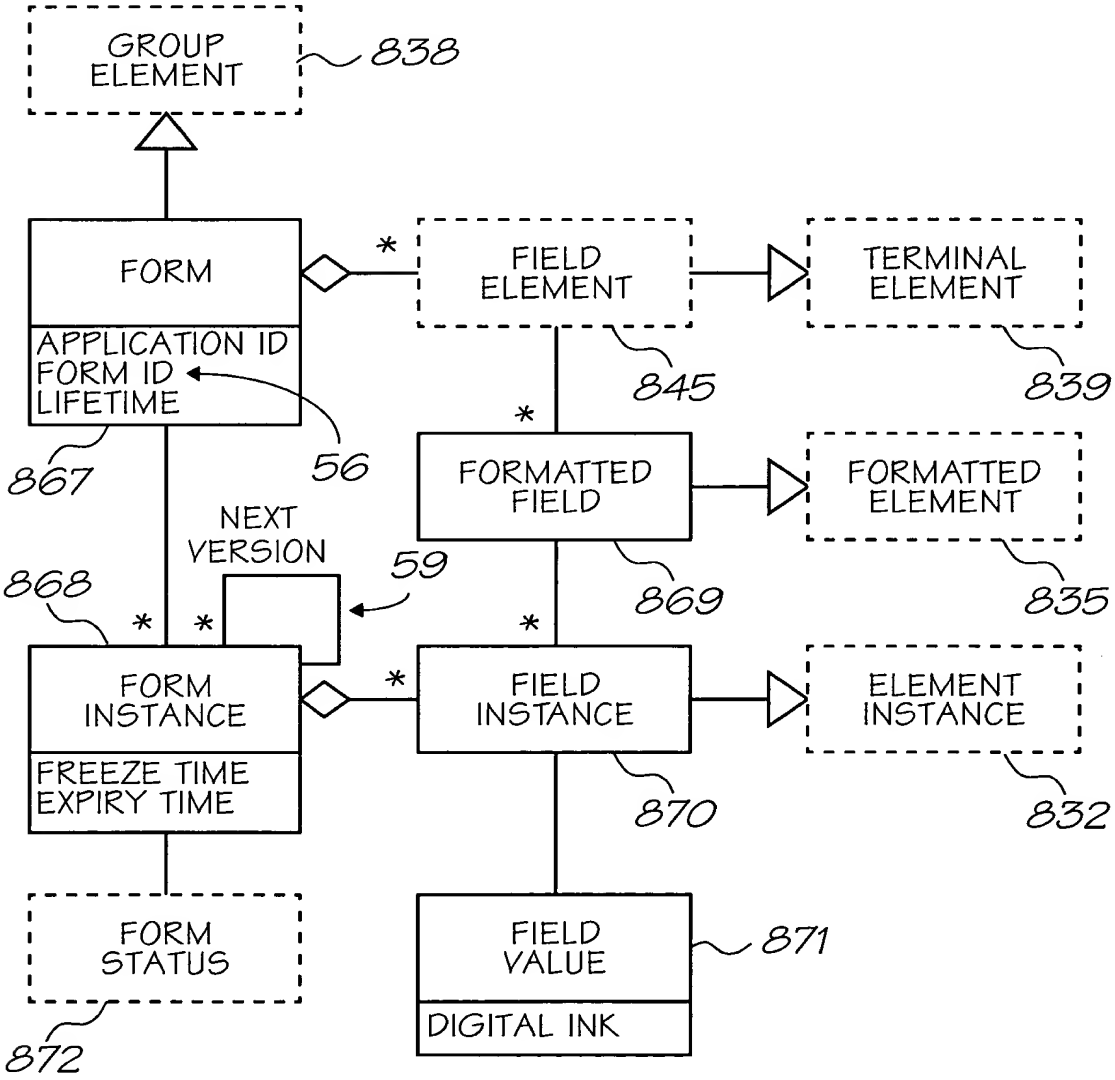
GROUP ELEMENT
838
FORM
APPLICATION ID
FORM ID
LIFETIME
867
56
*
FIELD ELEMENT
845
TERMINAL ELEMENT
839
*
FORMATTED FIELD
869
FORMATTED ELEMENT
835
NEXT VERSION
59
868
*
*
*
*
FORM INSTANCE
FREEZE TIME
EXPIRY TIME
FIELD INSTANCE
870
ELEMENT INSTANCE
832
FORM STATUS
872
FIELD VALUE
871
DIGITAL INK

FIG. 32

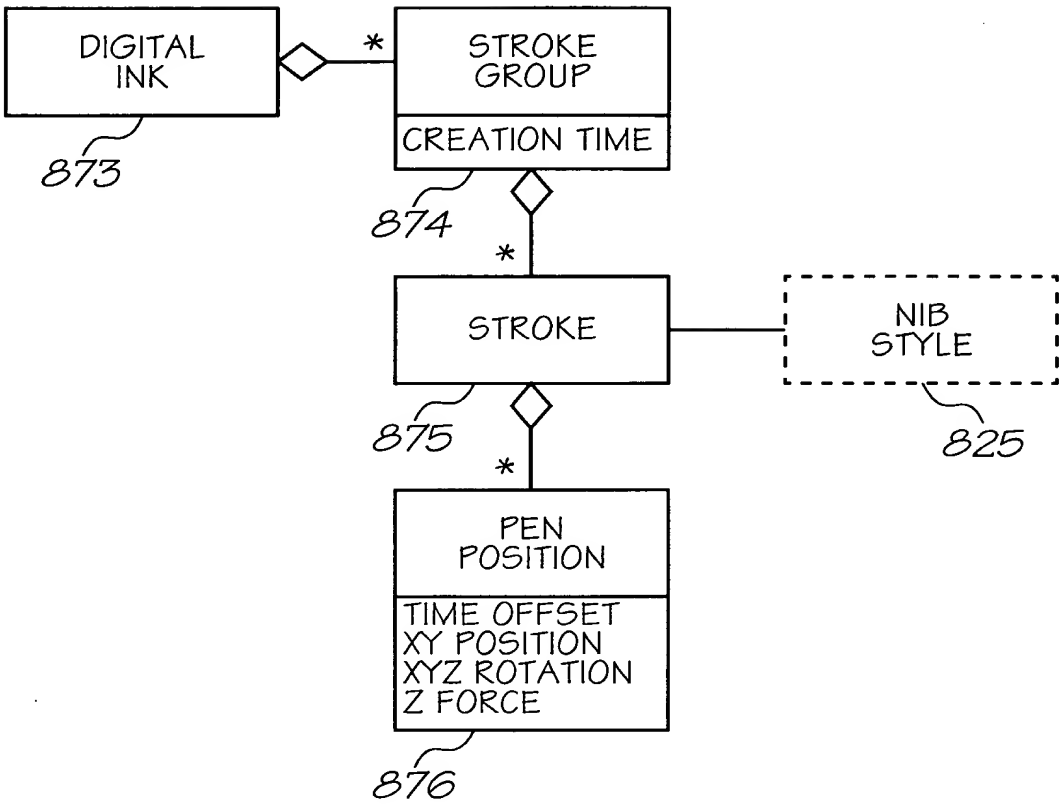

FIG. 33

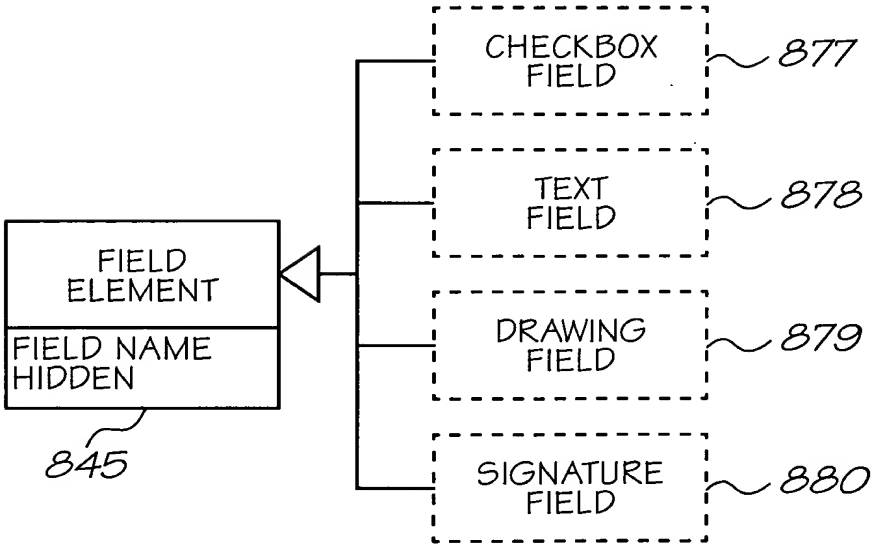

FIG. 34

09653482.030300

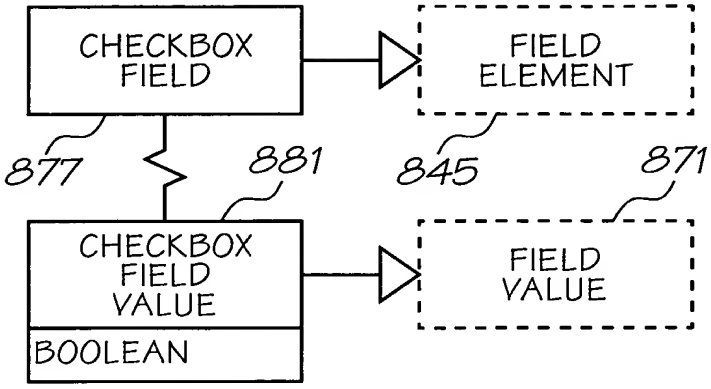

FIG. 35

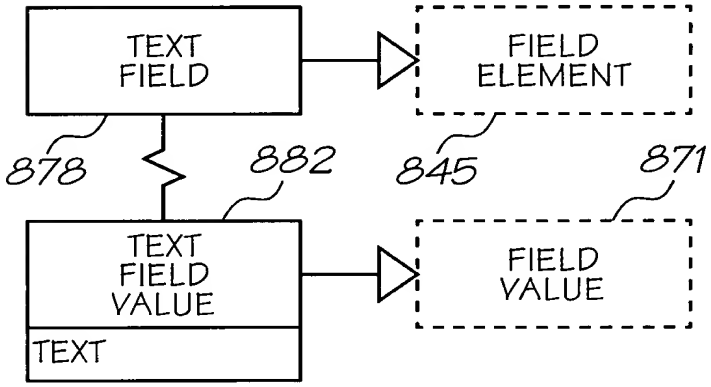

FIG. 36

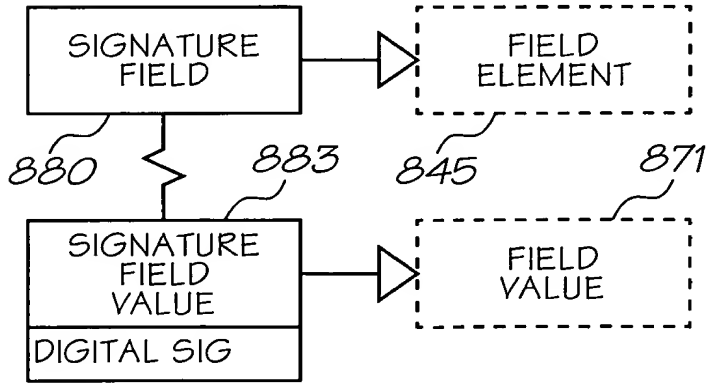

FIG. 37

Docket No. 20060502

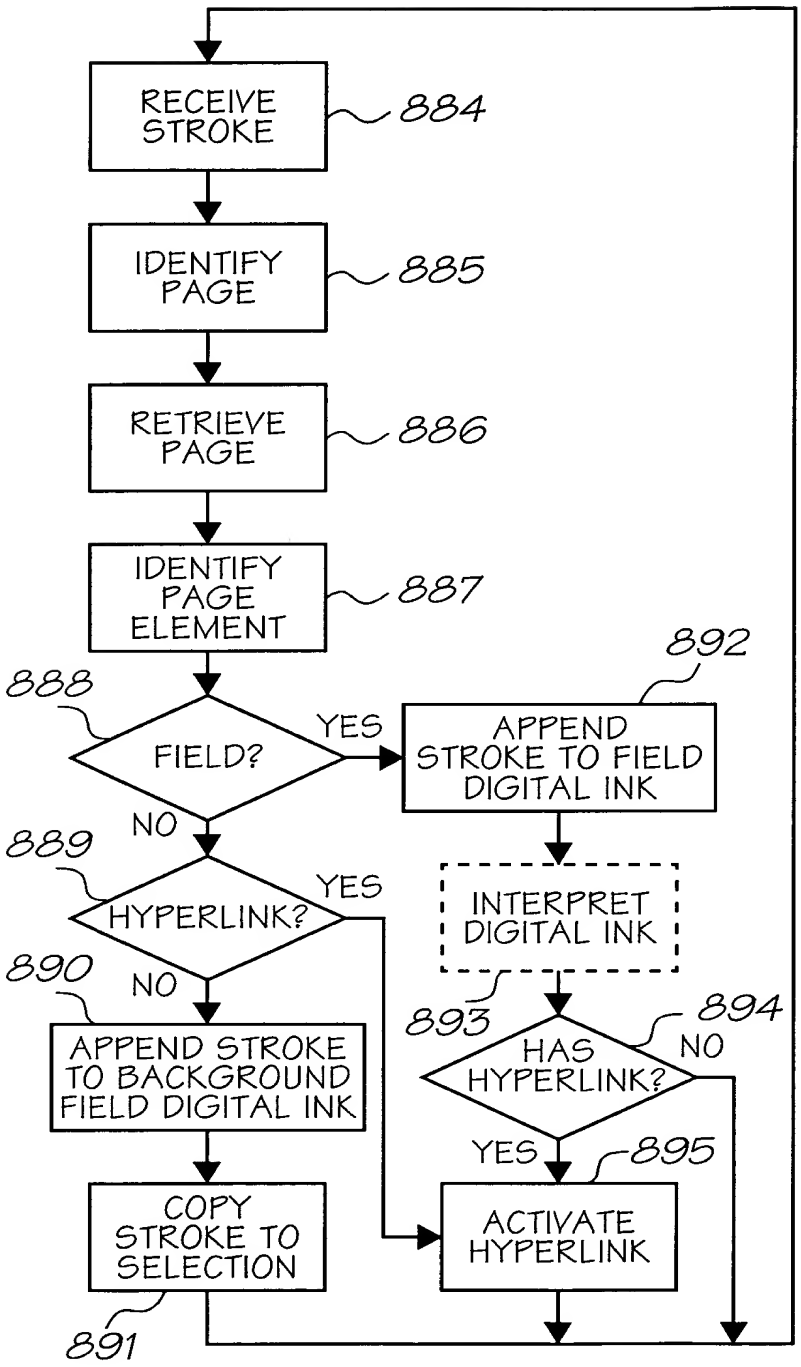
RECEIVE STROKE
884
IDENTIFY PAGE
885
RETRIEVE PAGE
886
IDENTIFY PAGE ELEMENT
887
888
FIELD?
YES
892
APPEND STROKE TO FIELD DIGITAL INK
NO
889
HYPERLINK?
YES
INTERPRET DIGITAL INK
890
NO
893
894
HAS HYPERLINK?
NO
APPEND STROKE TO BACKGROUND FIELD DIGITAL INK
YES
895
COPY STROKE TO SELECTION
ACTIVATE HYPERLINK
891

FIG. 38

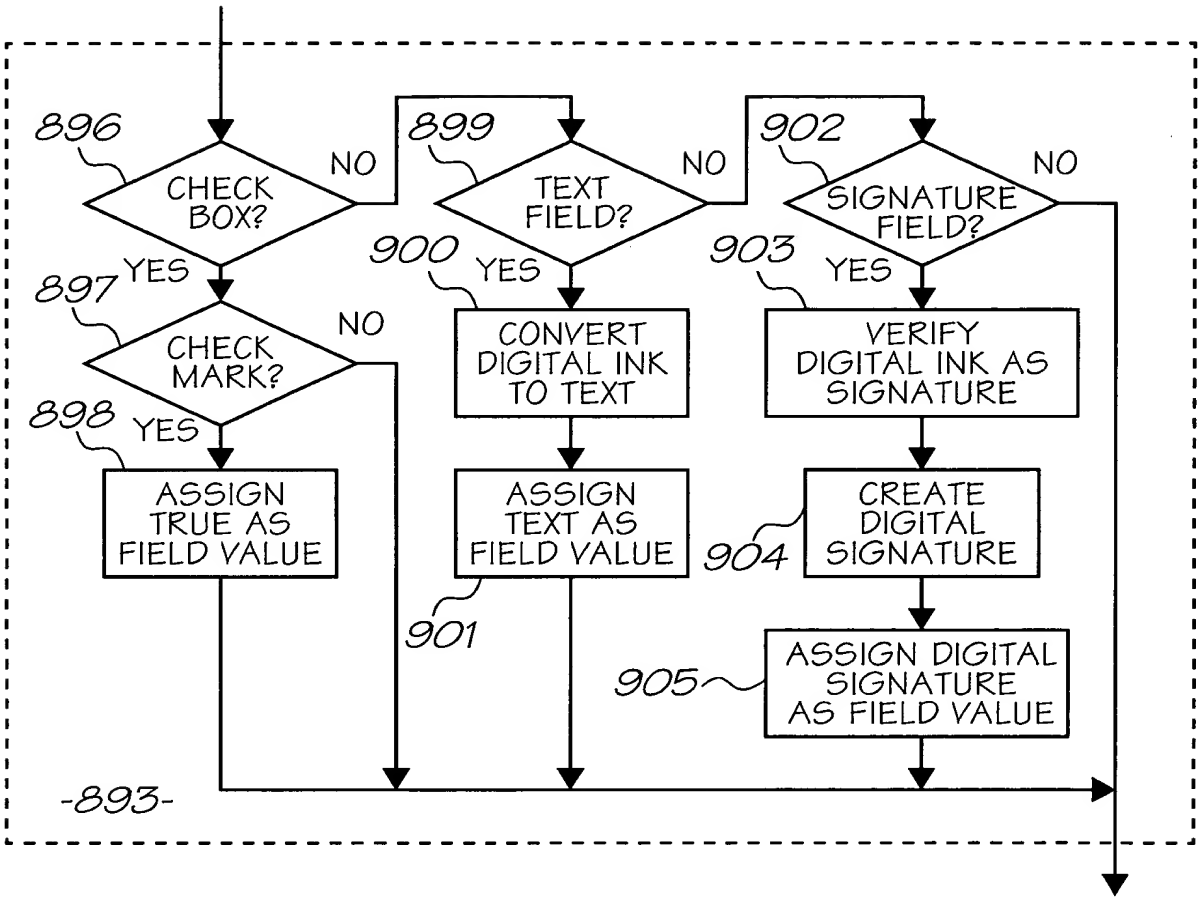
896
CHECK BOX?
NO
899
TEXT FIELD?
NO
902
SIGNATURE FIELD?
NO
YES
897
CHECK MARK?
NO
YES
900
CONVERT DIGITAL INK TO TEXT
YES
903
VERIFY DIGITAL INK AS SIGNATURE
YES
898
ASSIGN TRUE AS FIELD VALUE
ASSIGN TEXT AS FIELD VALUE
901
CREATE DIGITAL SIGNATURE
904
ASSIGN DIGITAL SIGNATURE AS FIELD VALUE
905
-893-

FIG. 38a

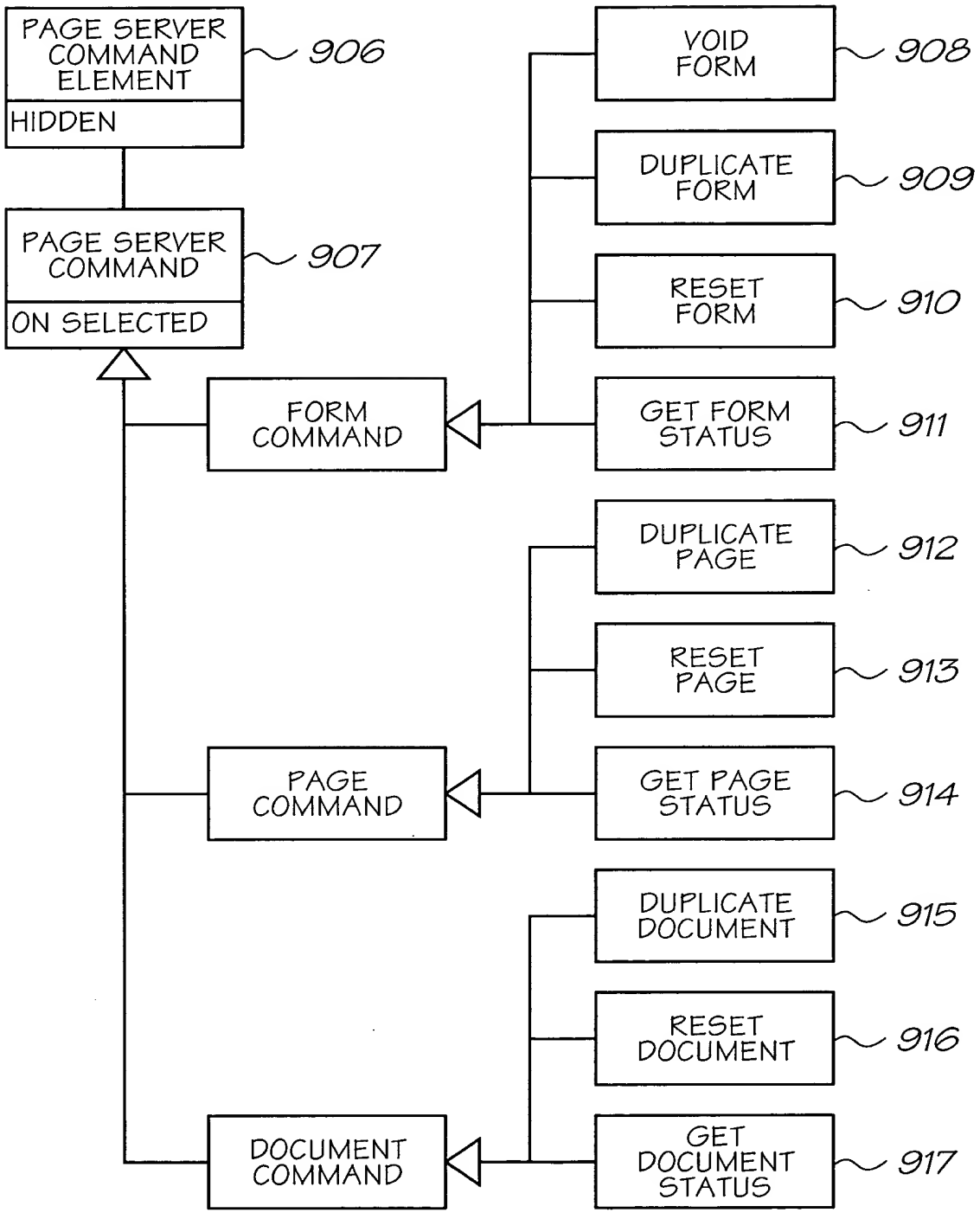
PAGE SERVER COMMAND ELEMENT
HIDDEN
906
PAGE SERVER COMMAND
ON SELECTED
907
FORM COMMAND
PAGE COMMAND
DOCUMENT COMMAND
VOID FORM
908
DUPLICATE FORM
909
RESET FORM
910
GET FORM STATUS
911
DUPLICATE PAGE
912
RESET PAGE
913
GET PAGE STATUS
914
DUPLICATE DOCUMENT
915
RESET DOCUMENT
916
GET DOCUMENT STATUS
917

FIG. 39

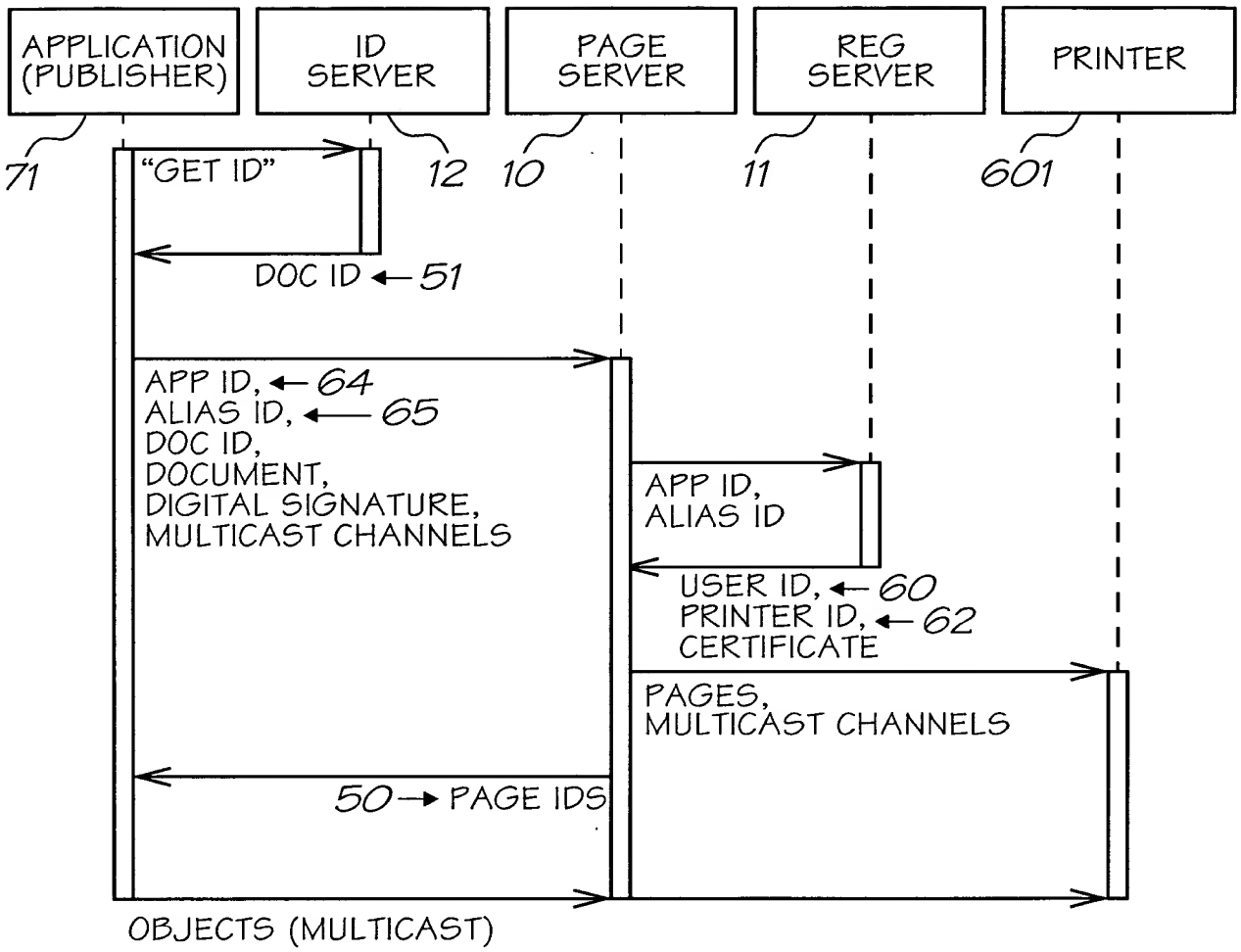
APPLICATION (PUBLISHER)
ID SERVER
PAGE SERVER
REG SERVER
PRINTER
71
12
10
11
601
"GET ID"
DOC ID ← 51
APP ID, ← 64
ALIAS ID, ← 65
DOC ID,
DOCUMENT,
DIGITAL SIGNATURE,
MULTICAST CHANNELS
APP ID,
ALIAS ID
USER ID, ← 60
PRINTER ID, ← 62
CERTIFICATE
PAGES,
MULTICAST CHANNELS
50 → PAGE IDS
OBJECTS (MULTICAST)

FIG. 40

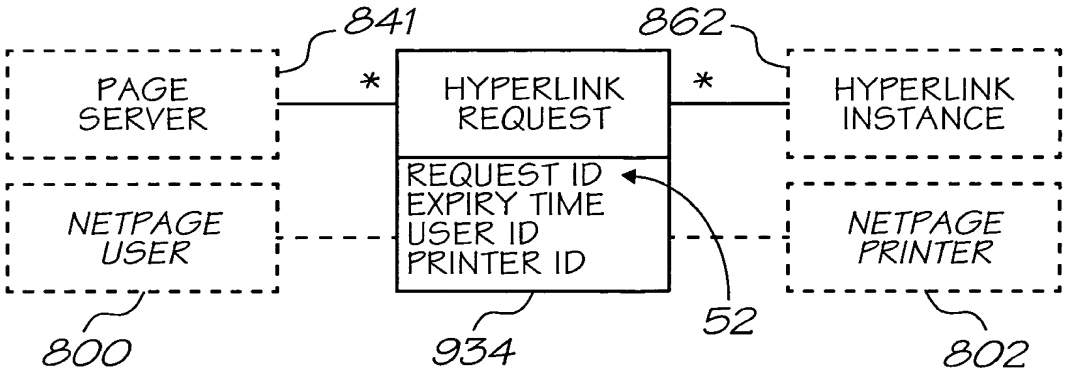
841
862
PAGE SERVER
*
HYPERLINK REQUEST
*
HYPERLINK INSTANCE
REQUEST ID
EXPIRY TIME
USER ID
PRINTER ID
NETPAGE USER
NETPAGE PRINTER
52
800
934
802

FIG. 41

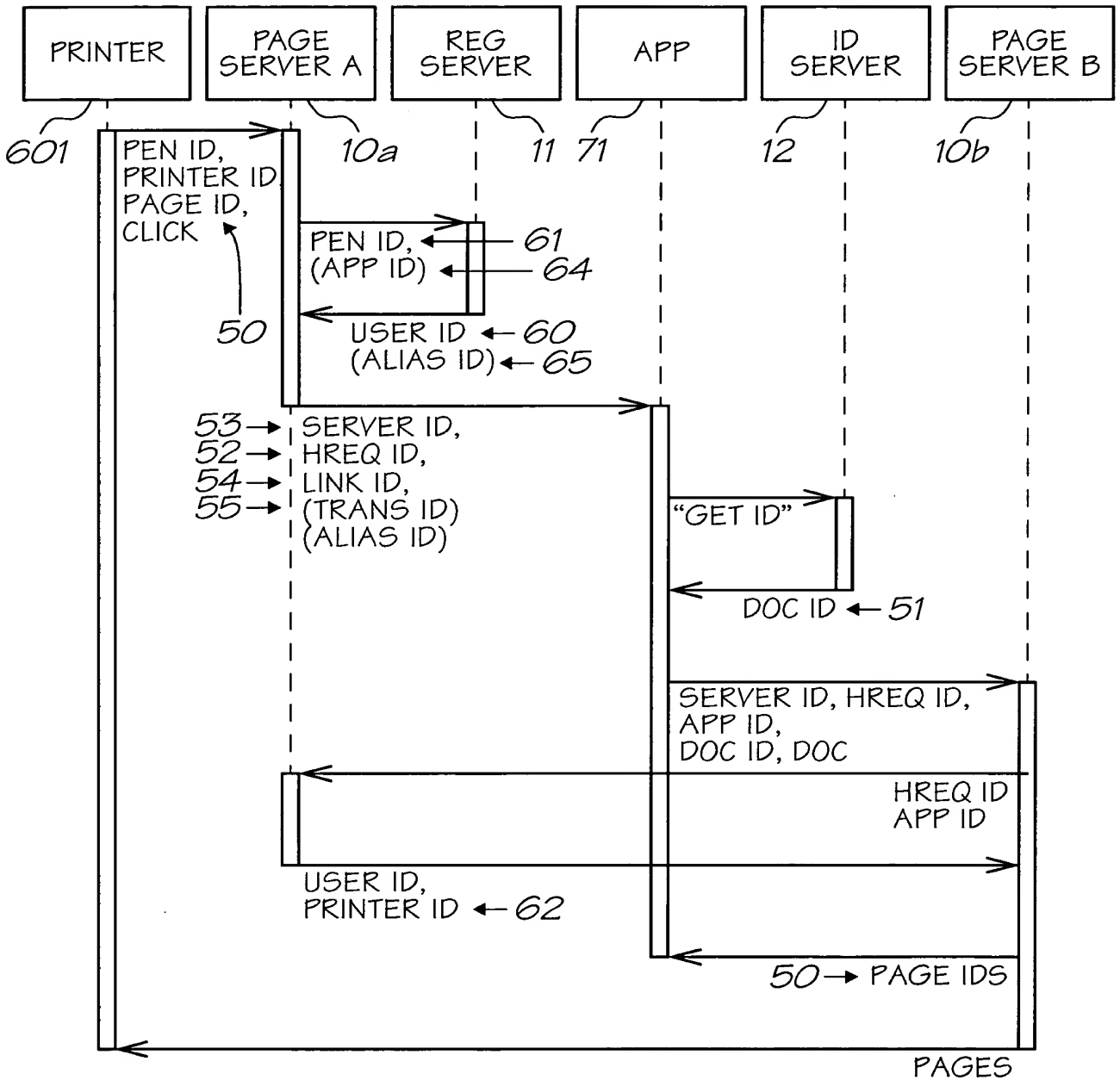
PRINTER
PAGE SERVER A
REG SERVER
APP
ID SERVER
PAGE SERVER B
601
10a
11
71
12
10b
PEN ID, PRINTER ID PAGE ID, CLICK
50
PEN ID, 61
(APP ID) 64
USER ID 60
(ALIAS ID) 65
53 SERVER ID,
52 HREQ ID,
54 LINK ID,
55 (TRANS ID)
(ALIAS ID)
"GET ID"
DOC ID 51
SERVER ID, HREQ ID, APP ID, DOC ID, DOC
HREQ ID
APP ID
USER ID, PRINTER ID 62
50 PAGE IDS
PAGES

FIG. 42

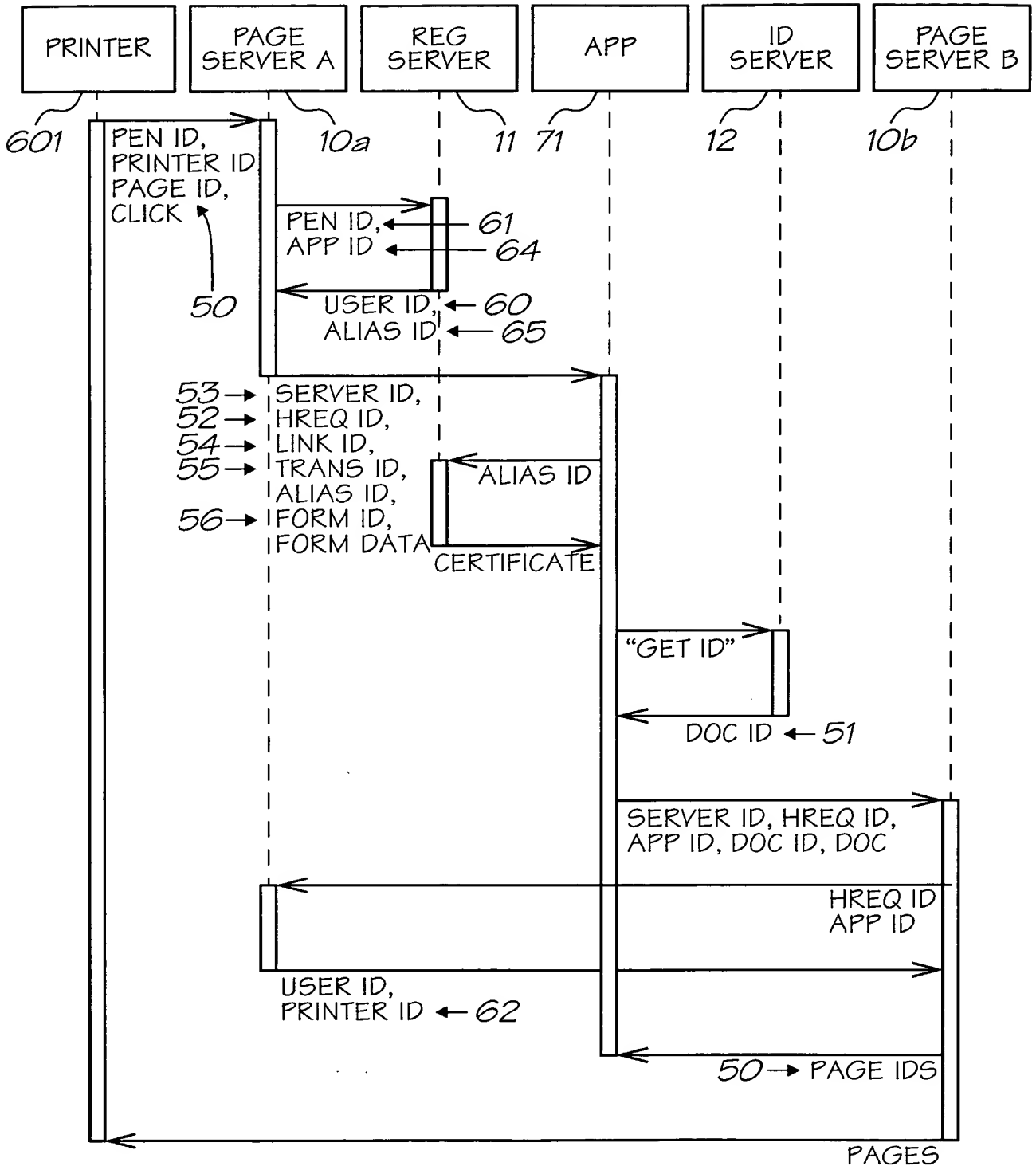
PRINTER
PAGE SERVER A
REG SERVER
APP
ID SERVER
PAGE SERVER B
601
10a
11
71
12
10b
PEN ID,
PRINTER ID
PAGE ID,
CLICK
50
PEN ID,
APP ID
61
64
USER ID,
ALIAS ID
60
65
53
52
54
55
56
SERVER ID,
HREQ ID,
LINK ID,
TRANS ID,
ALIAS ID,
FORM ID,
FORM DATA
ALIAS ID
CERTIFICATE
"GET ID"
DOC ID
51
SERVER ID, HREQ ID,
APP ID, DOC ID, DOC
HREQ ID
APP ID
USER ID,
PRINTER ID
62
50
PAGE IDS
PAGES

FIG. 43

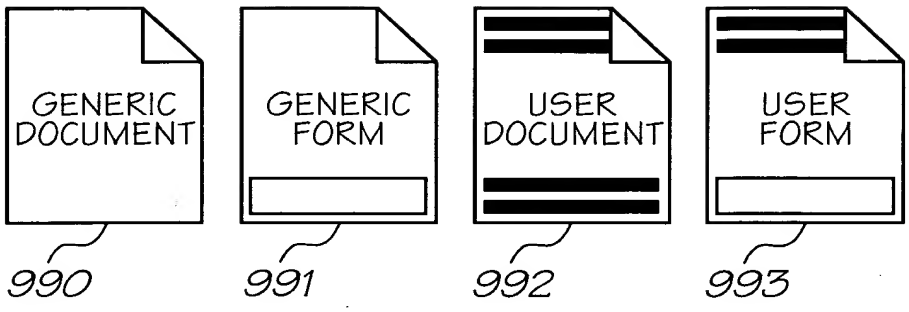

FIG. 44

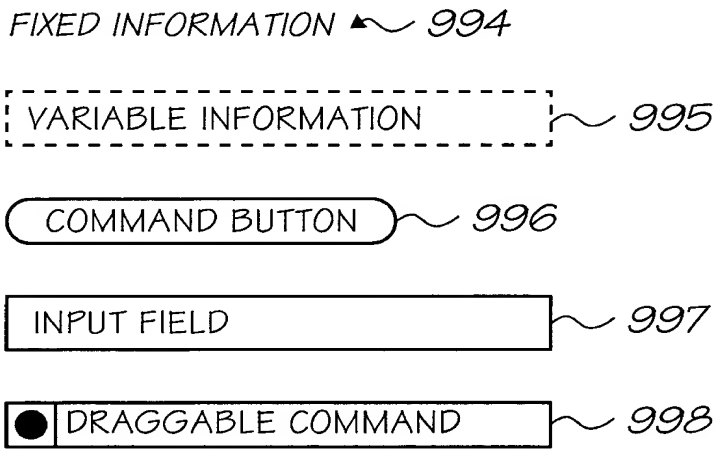

FIG. 45

09552868.2 090200

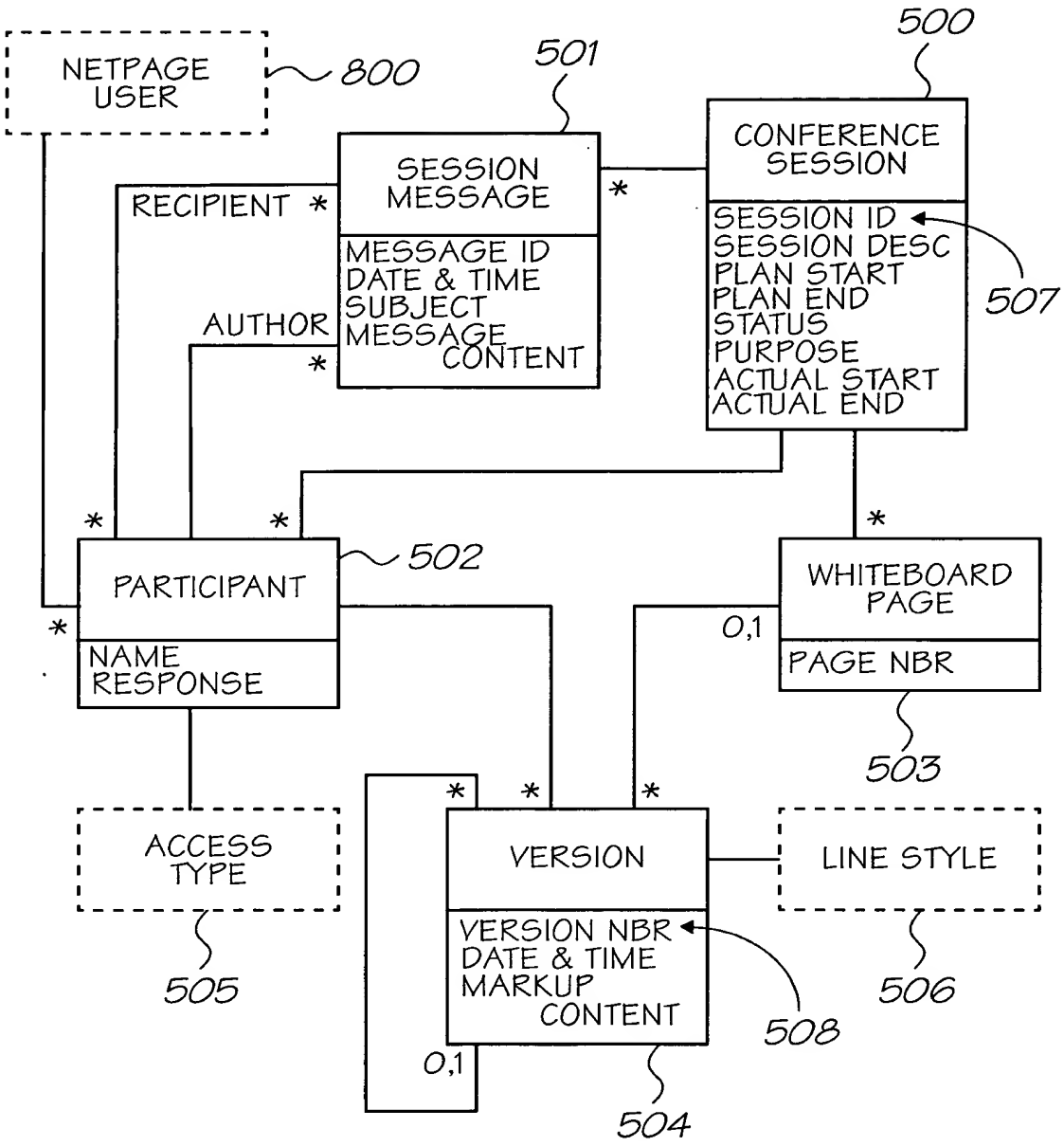
NETPAGE USER
800
501
SESSION MESSAGE
RECIPIENT *
AUTHOR *
MESSAGE ID
DATE & TIME
SUBJECT
MESSAGE CONTENT
500
CONFERENCE SESSION
SESSION ID
SESSION DESC
PLAN START
PLAN END
STATUS
PURPOSE
ACTUAL START
ACTUAL END
507
PARTICIPANT
502
NAME
RESPONSE
WHITEBOARD PAGE
0,1
PAGE NBR
503
ACCESS TYPE
505
VERSION
VERSION NBR
DATE & TIME
MARKUP
CONTENT
508
0,1
504
LINE STYLE
506

FIG. 46

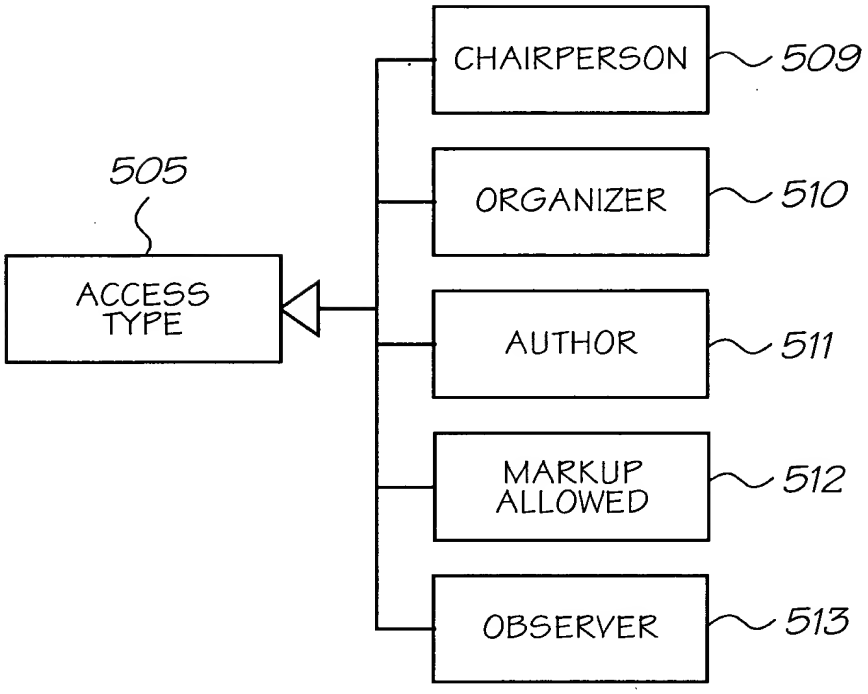
505
ACCESS TYPE
CHAIRPERSON
509
ORGANIZER
510
AUTHOR
511
MARKUP ALLOWED
512
OBSERVER
513

FIG. 47

05052-0052US

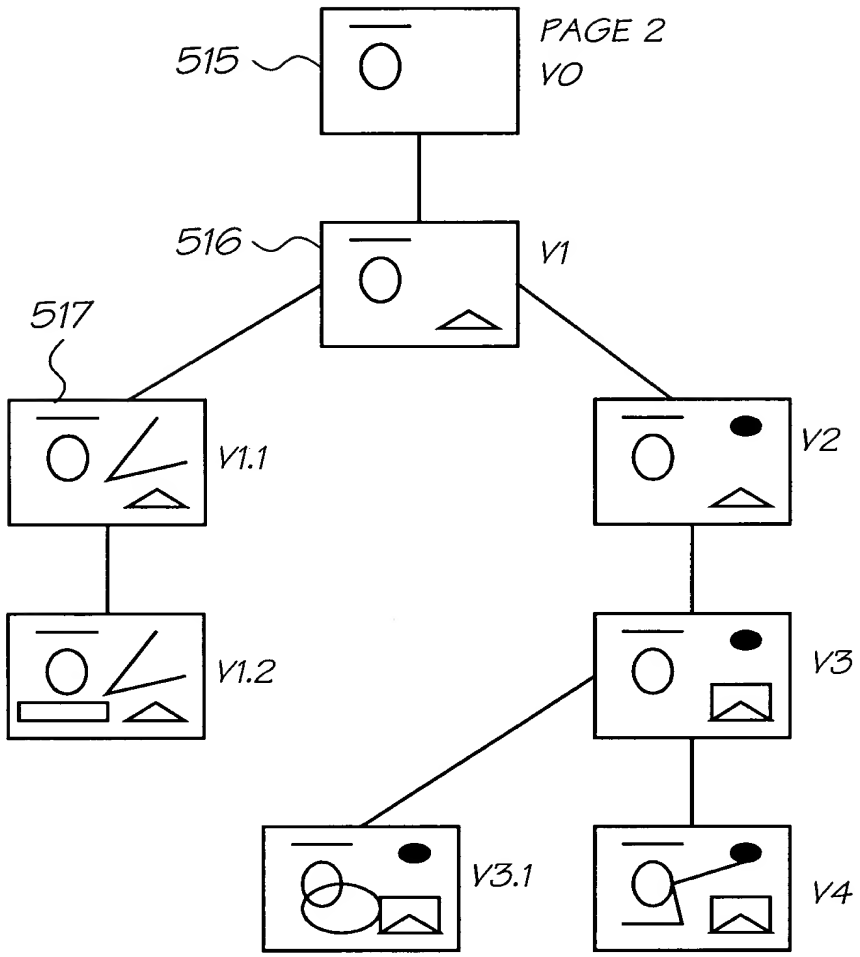

FIG. 48

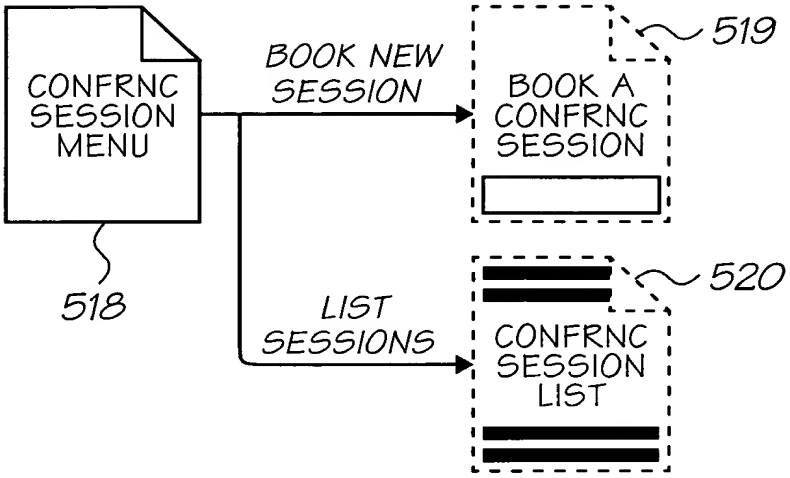

FIG. 49

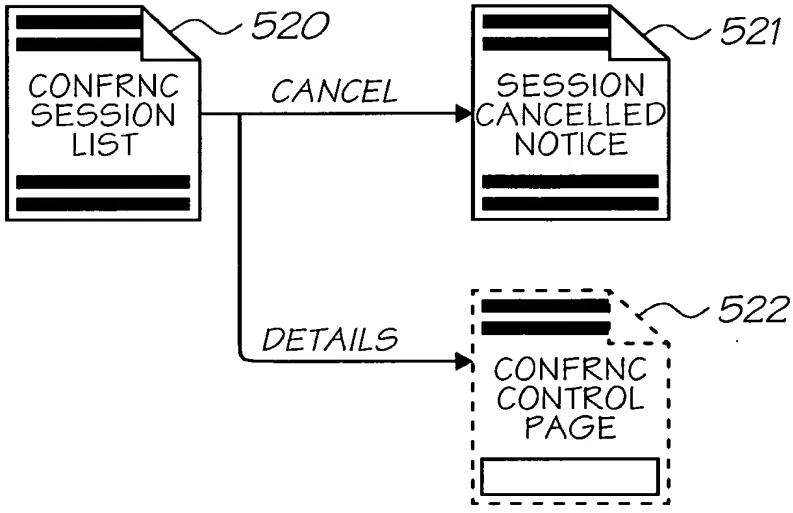

FIG. 50

09695952.060900

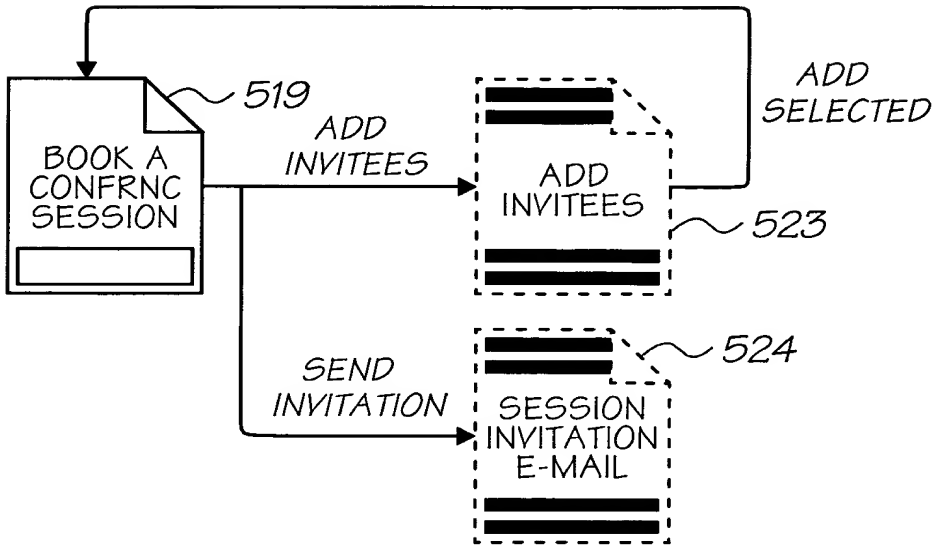
519
BOOK A CONFRNC SESSION
ADD INVITEES
ADD INVITEES
523
ADD SELECTED
524
SEND INVITATION
SESSION INVITATION E-MAIL

FIG. 51

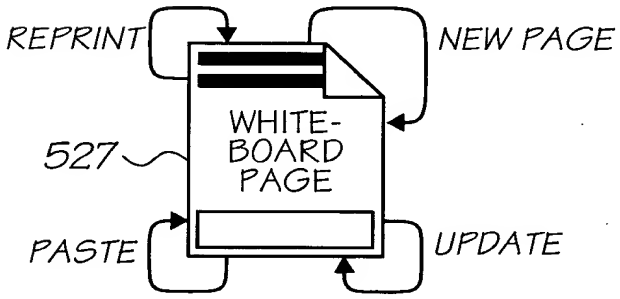
REPRINT
NEW PAGE
WHITE-BOARD PAGE
527
PASTE
UPDATE

FIG. 52

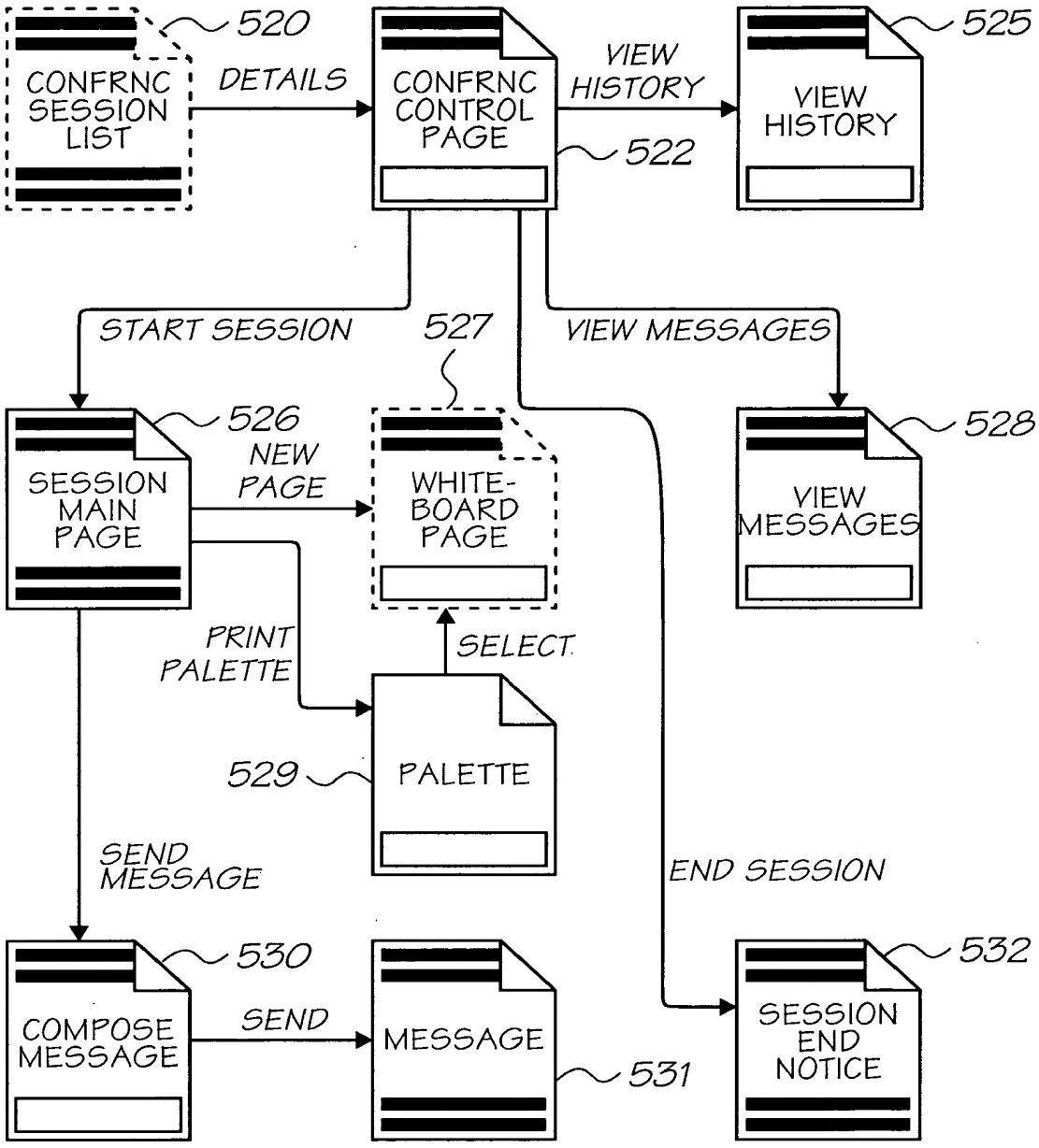
520
CONFRNC SESSION LIST
DETAILS
CONFRNC CONTROL PAGE
522
VIEW HISTORY
525
VIEW HISTORY
START SESSION
527
VIEW MESSAGES
526
SESSION MAIN PAGE
NEW PAGE
WHITE-BOARD PAGE
528
VIEW MESSAGES
PRINT PALETTE
SELECT
529
PALETTE
SEND MESSAGE
END SESSION
530
COMPOSE MESSAGE
SEND
MESSAGE
531
532
SESSION END NOTICE

FIG. 53

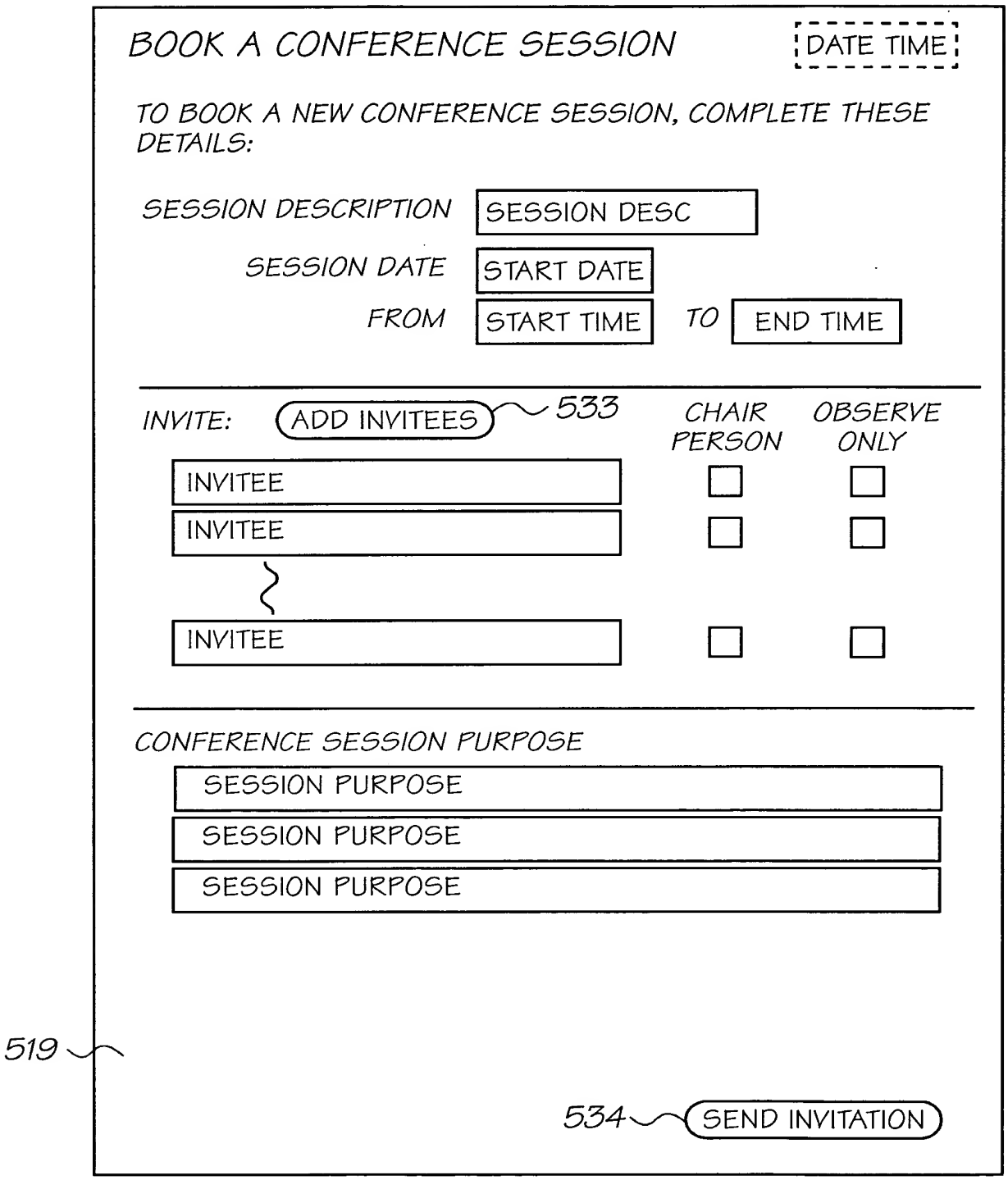
BOOK A CONFERENCE SESSION
DATE TIME
TO BOOK A NEW CONFERENCE SESSION, COMPLETE THESE DETAILS:
SESSION DESCRIPTION
SESSION DESC
SESSION DATE
START DATE
FROM
START TIME
TO
END TIME
INVITE:
ADD INVITEES
533
CHAIR PERSON
OBSERVE ONLY
INVITEE
INVITEE
INVITEE
CONFERENCE SESSION PURPOSE
SESSION PURPOSE
SESSION PURPOSE
SESSION PURPOSE
519
534
SEND INVITATION

FIG. 54

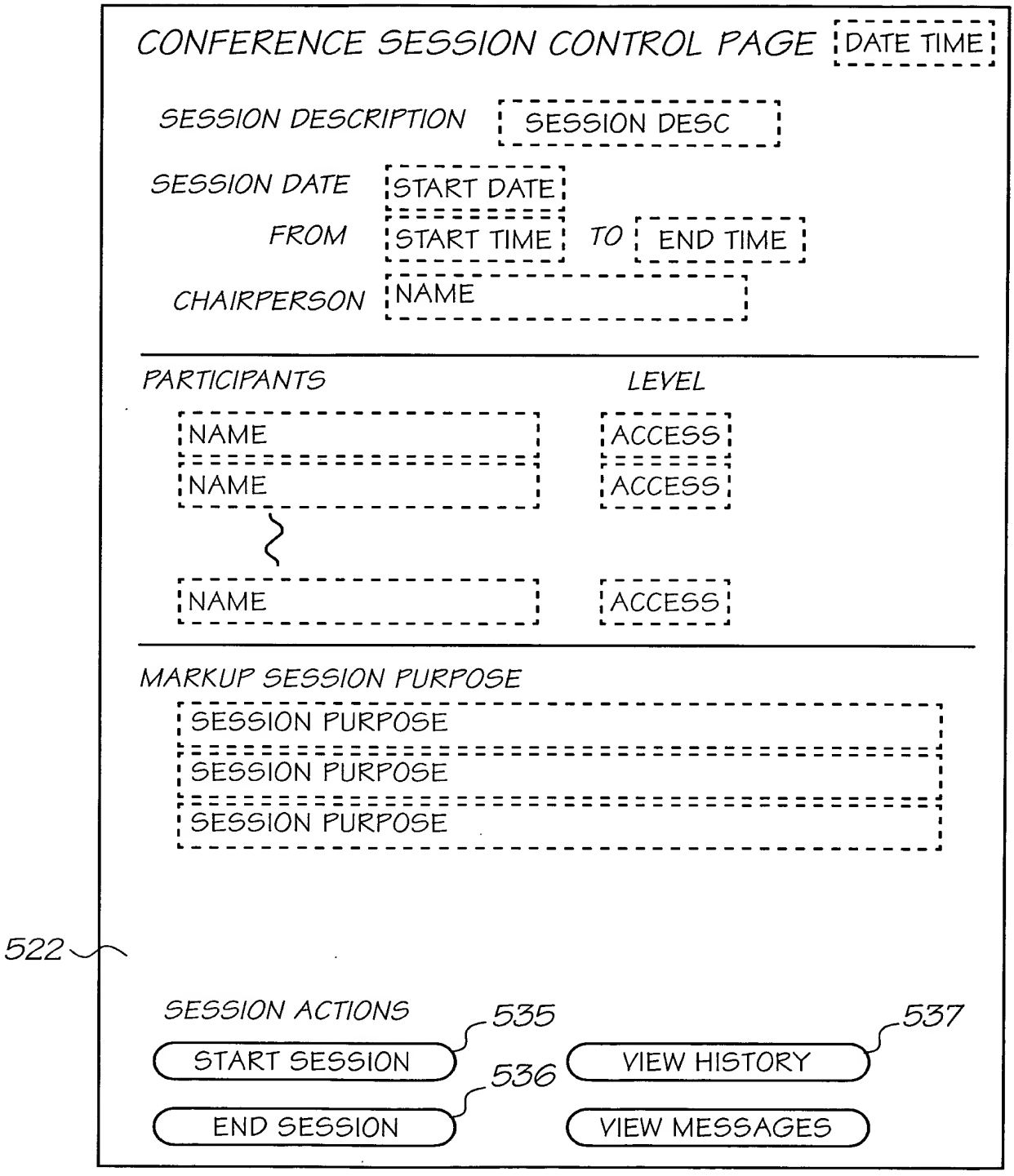

FIG. 55

09078502 - 050202

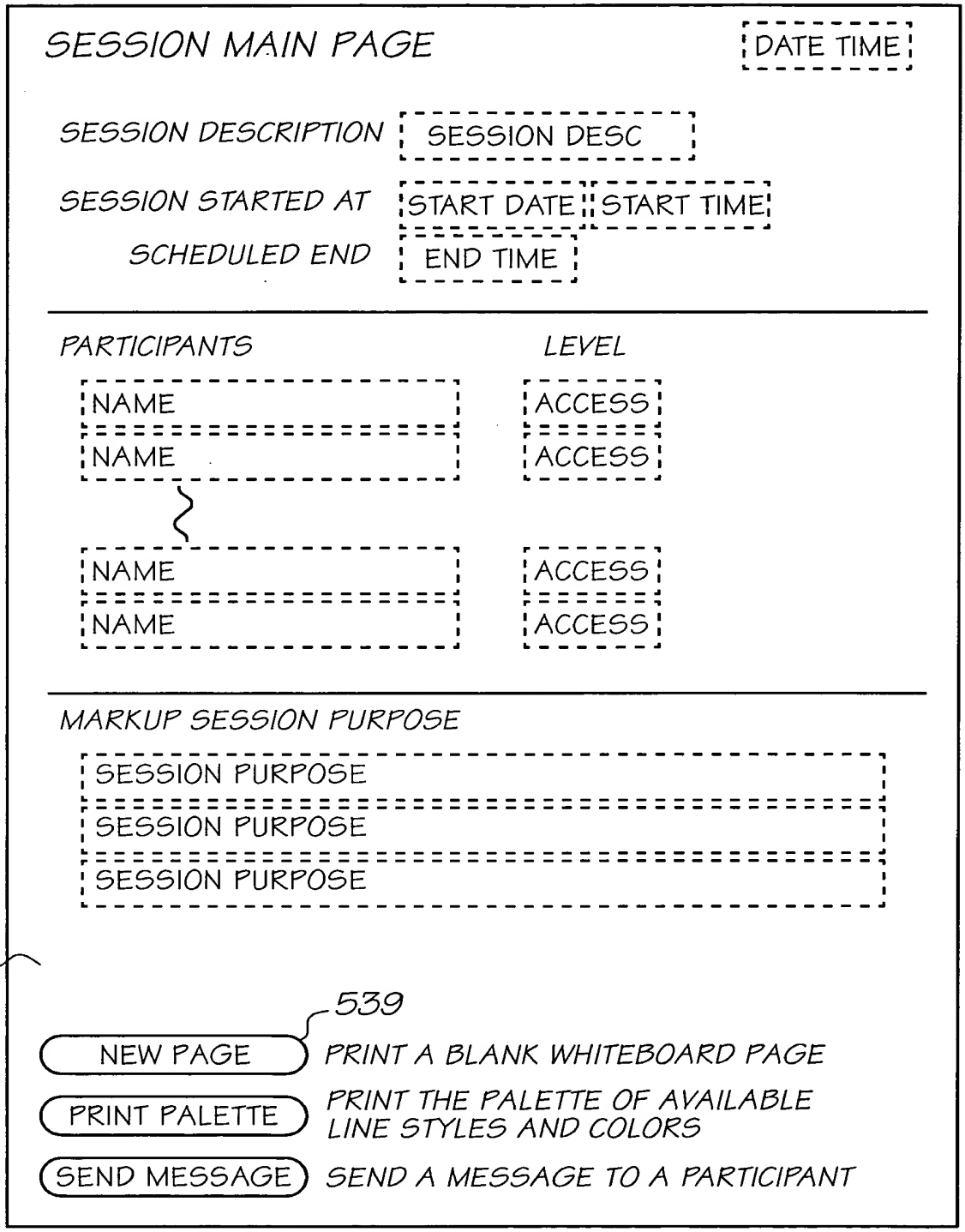

FIG. 56

Docket No. 50277-2038

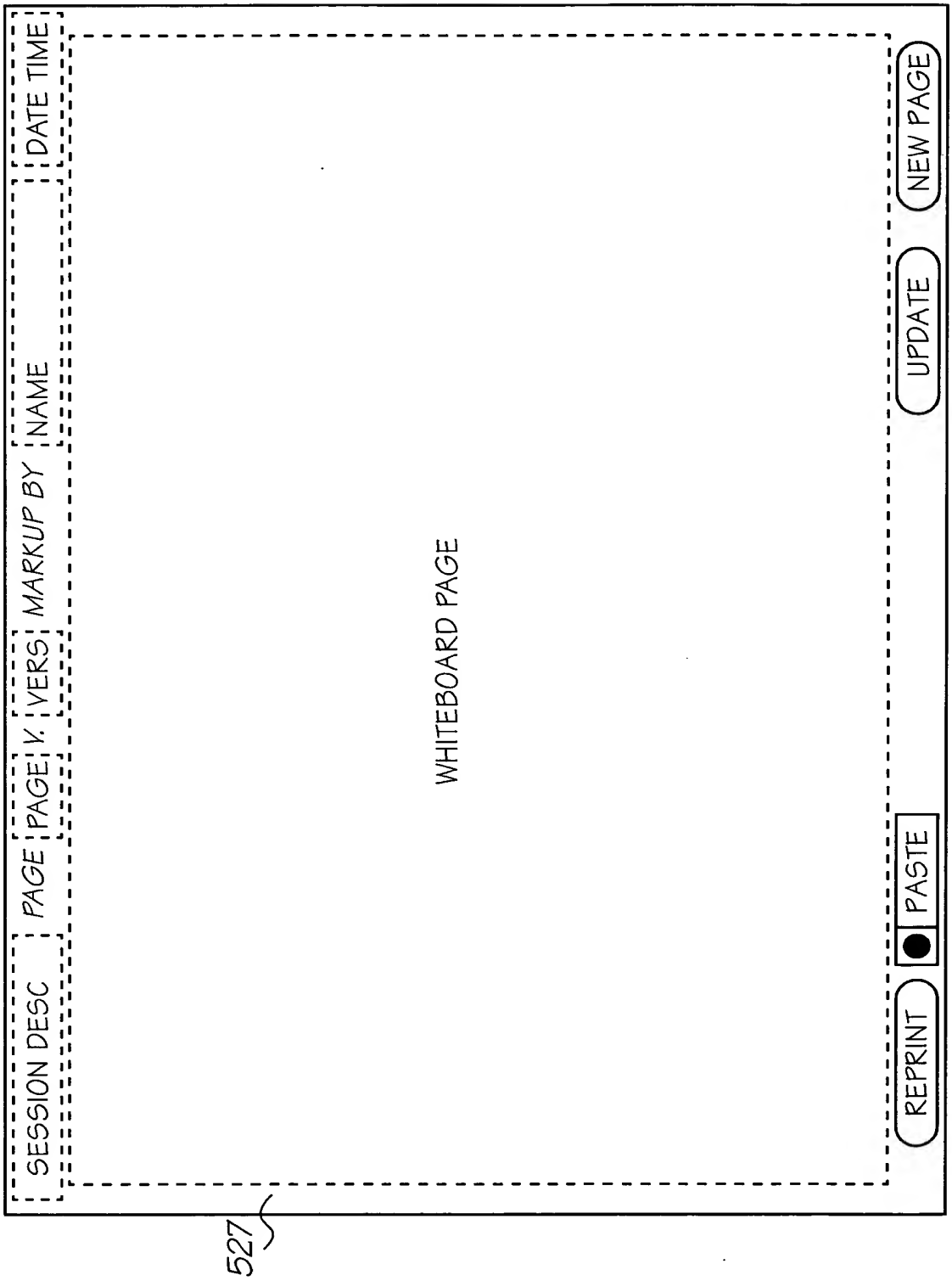
SESSION DESC
PAGE
PAGE
V.
VERS
MARKUP BY
NAME
DATE TIME
WHITEBOARD PAGE
REPRINT
PASTE
UPDATE
NEW PAGE
527

FIG. 57

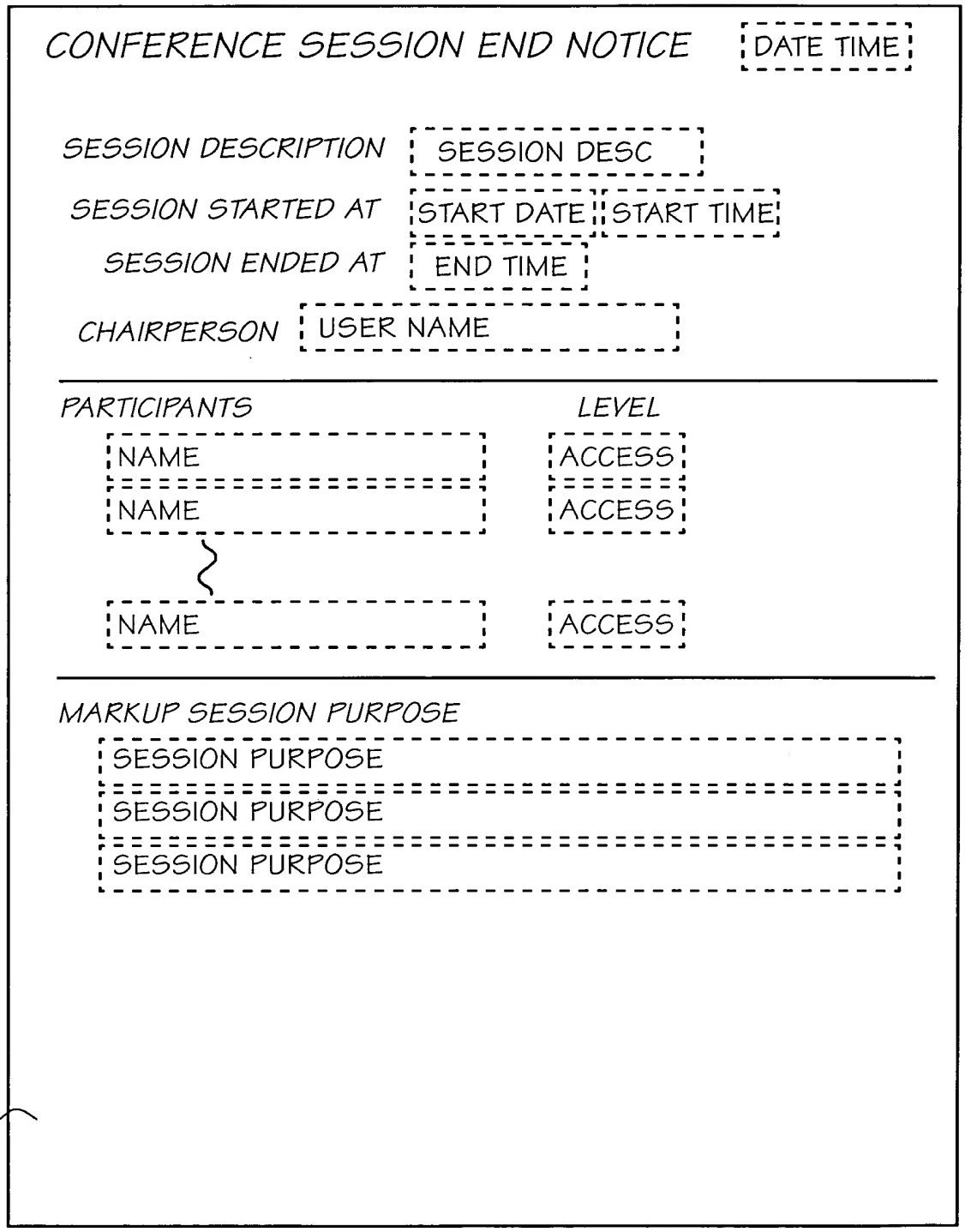
CONFERENCE SESSION END NOTICE
DATE TIME
SESSION DESCRIPTION
SESSION DESC
SESSION STARTED AT
START DATE
START TIME
SESSION ENDED AT
END TIME
CHAIRPERSON
USER NAME
PARTICIPANTS
LEVEL
NAME
ACCESS
NAME
ACCESS
NAME
ACCESS
MARKUP SESSION PURPOSE
SESSION PURPOSE
SESSION PURPOSE
SESSION PURPOSE
532

FIG. 58

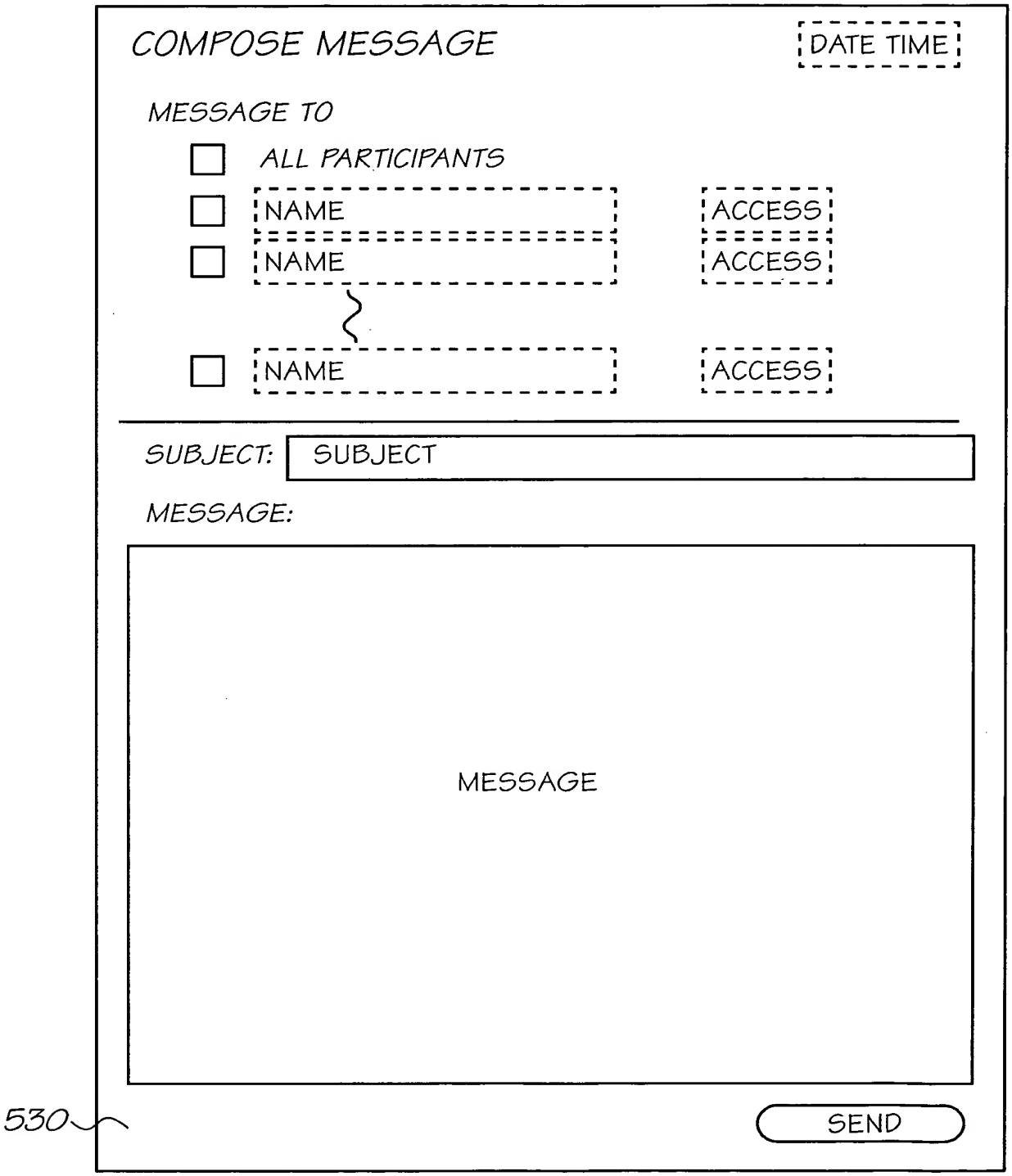
COMPOSE MESSAGE
DATE TIME
MESSAGE TO
ALL PARTICIPANTS
NAME
ACCESS
NAME
ACCESS
NAME
ACCESS
SUBJECT:
SUBJECT
MESSAGE:
MESSAGE
530
SEND

FIG. 59